The Aesthetics of the Mountain
Latin as a Progressive Force in the Late-Renaissance and Early Modern Period

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Awarding institution:
King's College London

KING'S COLLEGE, LONDON

The Aesthetics of the Mountain: Latin as a Progressive Force in the Late-Renaissance and Early Modern Period

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A THESIS SUBMITTED FOR THE DEGREE OF:

PhD Classics

FIELD OF STUDY:

Neo-Latin

School of Arts and Humanities, Department of Classics

Course Code/ Name: RDPL3ARCLA/Classics Research

September 8th 2014

Word Count: 95,829

Abstract

Neo-Latin was a progressive force in Renaissance and Early Modern Europe. As such, its literature played a significant role in shaping the ideas of the modern world. This study will attempt to corroborate these assertions by taking the example of the aesthetic attitude change towards the mountain that took place in the Renaissance and Early Modern Period. This attitude shift saw the mountain change from a fearful, ugly or simply aesthetically uninteresting place, to one of beauty and splendor over the course of around 300 years. Previous studies have argued that this change took place in the vernacular literature of the early and mid 18th century. This thesis will contend that it took place earlier and in Latin.

The aesthetic attitude shift towards the mountain can be shown to have had its catalysts in two broad spheres: firstly the development of an idea of 'landscape', and secondly in its increasing scientific and theological investigation. These two broad spheres can then be divided into a further two topics each: the 'landscape idea' emerged on the one hand from growing geographical—particularly chorographical—interest in Germanic countries at the beginning of the 16th century, and on the other hand out of the growing trend for specialisation and secularisation in art theory during the same period. The scientific interest in the mountain was driven by the numerous debates that sprang out of attempts to explain natural phenomena with reference to scripture. The effect of the changes in both scientific and theological thought on the aesthetic perception of the mountain reached its peak in the late seventeenth and early eighteenth centuries.

The new Latin evidence for the change in aesthetic attitude towards the mountain unearthed in the course of this study brings new material to the current debate on the aesthetics of nature. This study's concluding chapter shows that looking more closely into the processes that produced the Late Renaissance and Early Modern shift in aesthetic attitude towards the mountain can reveal important information for modern positions on the aesthetic appreciation of nature.

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List of Abbreviations

AnnAAG	Annals of the Association of American Geographers
ADB:	*Allgemeine Deutsche Biographie*
Ann. Sci.:	Annals of Science
ADCP:	Annali della cattedra petrarchesca
Arion:	Arion
BJA:	British Journal of Aesthetics
BJP:	British Journal of Psychology
BSIAS:	Bollettino Storico Italiano dell'Arte Sanitaria
BSJ:	Sommervogel, Bibliothèque de la Compagnie de Jesus
CAJ/RCE:	Canadian Aesthetics Journal
CandP:	Culture and Psycology
Cardanus:	Cardanus
Church Hist:	Church History
CJ:	Classical Journal
CJPhil:	Canadian Journal of Philosophy
EE:	Environmental Ethics
ELH:	English Literary History
EnvironV:	Environmental Values
EP:	Environmental Philosophy
ER:	Environmental Review
ESH:	Earth Science History
EthandEnv:	Ethics and Environment
GeogR:	Geographical Review
GSAMem:	Geological Society of America Memoirs
Hesp. Supp.:	Hesperia Supplement
Hist. Sci.	History of Science
HLS:	Historisches Lexikon der Schweiz.
HMU:	Historia Moderna Universal
HPQ:	History of Philosophy Quarterly
HT:	History and Theory
HZ:	Historische Zeitschrift

IMeU:	Italia Medioevale e Umanistica
IQ:	Italian Quarterly
Isis:	Isis
JAAC:	Journal of Aesthetics and Art Criticism
JAE:	Journal of Aesthetic Education
JAP:	Journal of Applied Philosophy
JbkunstSamm:	Jahrbuch der kunsthistorischen Sammlungen
JHI:	Journal of the History of Ideas
JHS:	Journal of Hellenic Studies
JLR:	Journal of Leisure Research
JRS:	Journal of Roman Studies
KonstTid/JAH:	Konsthistorisk Tidskrift/Journal of Art History
Landscape:	Landscape
LSJ:	Lewis and Short
MünJbBK:	Münchener Jahrbuch Der Bildenden Kunst
NDB:	Neue *Deutsche Biographie*
NlatJb:	Neulateinisches Jahrbuch
MlatJb:	Mittellateinisches Jahrbuch
OLD	Oxford Latin Dictionary
PAC:	Proceedings of the Aristotelian Society
Pantheon:	Pantheon
Poetica:	Poetica
PPR:	Philosophical Papers and Reviews
PQ:	The Philosophical Quarterly
PR:	Philosophical Review
REA:	Revue des Etudes Augustiniennes
Sewanee Review:	Sewanee Review
SLJ	The Southwestern Louisiana Journal
SR:	Studies in the Renaissance
TBM:	The Burlington Magazine
TIBG:	Transactions of the Institute of British Geographers
YLJ:	The Yale Law Journal

Note on Neo-Latin Texts

The large majority of Neo-Latin works used and cited in this study have been consulted in Early Modern printed editions. Given the large degree of variation in Latin orthography in early printed books, the Neo-Latin passages cited throughout this study have been standardised according to the following modern principles for the sake of consistency:

- <I> and <i> for <J> and <j> in all positions;
- <V> and <v> for <U> and <u> when <u> represents /w/, except after /q/ or /g/ according to tradition, so *quando,* but *aevus*;
- <Y> and <y> are retained where they represent /y/ in a Greek loanword, otherwise they are standardised to <i> or <u> according to modern spelling;
- the ligatures <Æ> and <æ>, <Œ> and <œ> are transcribed as <Ae>, <ae>, <Oe>, <oe> in all positions;
- the <&> ligature is transcribed as *et;*
- <ę> is transcribed as <ae>;
- missing aspirants and non-standard aspiration through hypercorrection have been replaced or removed according to modern spelling standards;
- accents and other diacritics have been removed;
- capitalisation, underlining and italicisation have been removed unless otherwise stated;
- abbreviations have been expanded.

In cases where the Latin text follows that of a modern edition, the orthography follows choices of the modern editor.

Late Renaissance and Early Modern punctuation has been adjusted to modern standards.

1. Introduction

i) Prelude: Two Mountain Views 1537 and 1802

In 1802, English romantic poet William Wordsworth—"an Islander by birth,/ a Mountaineer by habit"—described the view from Mont Blanc over the Vale of Chamonix in the following verses:

> That very day,
> From a bare ridge we also first beheld
> Unveiled the summit of Mont Blanc, and grieved
> To have a soulless image on the eye
> That had usurped upon a living thought
> That never more could be. The wondrous Vale
> Of Chamouny stretched far below, and soon,
> With its dumb cataracts and streams of ice,
> A motionless array of mighty waves,
> Five rivers broad and vast, made rich amends,
> And reconciled us to realities;[1]

The passage is held up as an example of the highly sensitive feeling for nature and Alpine scenery to be found among the Romantic poets. Marjorie Hope Nicolson's 1959 "*Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite*" was the first book to trace the development of this "Aesthetics of the Infinite" from the literary heritage of ancient authors through to its "perfect expression" in Wordsworth's works.[2] After establishing that the feeling for the

[1] Wordsworth, *The Prelude,* VI.523-533. Wordsworth refers to himself indirectly as "an Islander by birth, a Mountaineer by habit" in *Musings near Aquapendente*, 3-4. The text of Wordsworth's poetry follows T. Hutchinson's Oxford edition revised in 1953 by E. de Selincourt.

[2] Nicolson, M. H., *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite* (Ithaca, NY, 1959). Nicolson's work was the first to focus on the example of the mountain and the change in aesthetic taste towards it. Earlier scholars had treated nature in literature more broadly, among which stand out: A. Biese, *Die Entwicklung des Naturgefühls bei den Greichen und Römern* (Kiel: Lipsius und Tischer, 1882); A. Biese, *The Development of the Feeling for Nature in the Middle Ages and Modern Times* (London, 1906); M. Reynolds, *The Treatment of Nature in English Poetry* (Chicago, 1896). Other scholars had studied changes in aesthetic attitudes towards nature generally, for example: A. O Lovejoy, "Nature as Aesthetic Norm," *Modern Language Notes* 42 (1927): 444–50; A. O Lovejoy, "The Gothic Revival and the Return to Nature," *Modern Language Notes* 48 (1932): 419–46; B. Sprague Allen, *Tides in English Taste* (Cambridge, MA, 1937); E. Manwaring, *Italian Landscape in Eighteenth Century England* (New York, 1925). Nicolson finds the perfect expression of her "Aesthetics of the Infinite" in Wordsworth's *The Prelude* VI, 624-40: The immeasurable height/ Of woods decaying, never to be decayed/ The stationary blasts of waterfalls/ And in the narrow rent at every turn/ Winds thwarting winds, bewildered and forlorn,/ The rocks that muttered close upon

mountain in the Classical tradition had been largely adverse, Nicolson's work attempts to answer the question she herself poses in the preface: "Why did mountain attitudes change so spectacularly in England?"[3] The response that Nicolson provides in *Mountain Gloom and Mountain Glory*—to summarise a volume of nearly 400 pages—focuses on passages in Thomas Burnet's *Sacred Theory of the Earth* (1684), a work which combines "a violent disparagement of the ugliest objects in nature with an almost lyrical rhapsody on the exalted emotions he had experienced among the Alps".[4]

Nicolson's *Mountain Gloom and Mountain Glory* is a study in English literature. Nonetheless, the work draws in small measures on much 16th, 17th and 18th century continental literature to contextualise the English literary developments it traces. This continental literature to which Nicolson refers was written in all of the main contemporary European languages, including Latin.

Had Neo-Latin Studies been a more mature field when Nicolson wrote her work in 1959—and her interests slightly different—*Mountain Gloom and Mountain Glory* might have been another book. Instead of reading Wordsworth in the introduction, we might have met Swiss professor Johannes Müller (Rhellicanus) (1473-1542), who described the view from the Stockhorn in a way remarkably similar to Wordsworth's description of Chamonix. He wrote, however, in Latin, and over 250 years earlier:

> *Donec per scopulos, et saxa minantia tandem*
> *In juga Stockhorni pervenimus: unde sub ortum,*
> *Stagna, lacus, torrenteis Simmae, Arulaeque fluenta,*

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our ears,/ Black drizzling crags that spake by the way-side/ As if a voice were in them, the sick sight/ and giddy prospect of the raving stream,/ The unfettered clouds and regions of the Heavens,/ Tumult and peace, the darkness and the light—/ Were all like workings of one mind, the features/ Of the same face, blossoms upon one tree;/ Characters of the great Apocalypse,/ The types and symbols of Eternity,/ Of first, and last, and midst, and without end. She cites the passage on the last pages of *Mountain Gloom and Mountain Glory:* 392-3.

[3] Nicolson sketches the mountain's literary career in the Classics—with a clear emphasis on their reception in sixteenth and seventeenth century English literature—in her chapter *The Literary Heritage*: 34-71. The book's central question is stated in this way in the *Preface* to *Mountain Gloom and Mountain Glory*: vii.

[4] Thomas Burnet's first English edition of his work appeared in 1684 as: *A Sacred Theory of the Earth: Containing an Account of the Original of the Earth and of All the General Changes which it hath Already Undergone or Is to Undergo, till the Consummation of All Things* (London,). For Burnet and his ambiguous mountain aesthetic with exclusive focus on the original Latin see subchapter: viii) *The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy* in *Theologia et Philosophia Naturalis* below. Nicolson's précis of Burnet's paradoxical attitude towards the mountain appears in the *Preface* to *Mountain Gloom and Mountain Glory*: vii.

Oppida spectamus, campos, viridantia prata.
Occiduas sed equos ubi Phoebus mergit in undas,
Innumeros monteis speculamur, ut aequora lata.
Pavimus utque oculos . . .[5]

Until at last through the cliffs and threatening rocks
We reached the top of the Stockhorn: from where we saw towards the east
Pools, lakes, the rushing streams of the Simme, the rivers of the Aare,
Towns, fields and verdant pastures.
But where Phoebus plunges his horses into westerly waves
We could see innumerable mountains, just like a wide sea.
After we had feasted our eyes . . .

Despite the resemblances in content and feeling between the two excerpts, there is much that separates Wordsworth's mountain-top view from Rhellicanus'—aside from the respective dates of the works and the language in which they are written. To take but the most obvious: Wordsworth's *opus* contains hundreds of descriptions of mountain scenery, each striving to express his Romantic sensibilities. Rhellicanus' *Stockhornias,* on the other hand is unique within his modest literary output.[6]

ii) Latin Literature Overlooked

The ideas that Rhellicanus articulates in his poem—and which anticipate Wordsworth by a quarter of a millennium—are not, however, unique amongst his Swiss contemporaries. In 1541, Conrad Gesner published his *Epistola de Montium Admiratione* as an appendix to his *Libellus de Lacte et Operibus Lactariis.*[7] Only 14 years later, Gesner would publish another group of texts praising and describing the Alps appended to his *De Raris et Admirandis Herbis, quae . . . Lunariae nominantur, Commentariolus.*[8] Nor were Latin texts such as these isolated and separate from the

[5] J. Rhellicanus, 1537, *Stockhornias* (Basel): lines 50-57. The author printed the poem as an appendix to his edition of Plutarch's *Life of Homer*. The English translation is my own, as is the case for all other Latin and Greek texts cited unless otherwise stated. For more on Rhellicanus and his *Stockhornias* see: xii) *Prospectus—Geography and Landscape Art come together* in *Gaeographia, Prospectus, Pictura* below.

[6] For a short biography of Rhellicanus (Müller) with a list of his works see: Germann, M. "Rhellicanus, Johannes", in: *HLS* X, 2011 (Basel).

[7] Gesner, C. 1541, *Libellus de Lacte, et Operibus Lactariis, philologus pariter ac medicus. Cum Epistola ad Iacobum Avienum de Montium Admiratione.* (Zurich).

[8] Gesner, C. 1555, *De Raris et Admirandis Herbis, quae sive quod noctu luceant, sive alias ob causas, Lunariae nominantur, Commentariolus:* (Zurich). For more on Gesner, his own works in praise of

English attitude change that Nicolson describes in *Mountain Gloom and Mountain Glory*. Burnet's *Sacred Theory* was originally written in Latin.[9] It was part of an international debate over the formation of the earth—and the mountains along with it—which had been taking place on the continent, largely in Latin, for centuries before.[10]

Nicolson's focus on England and English texts creates a gap between her starting point in the Greek and Latin literary heritage and Burnet, where she finds the start of the mountain attitude shift. Her gap is both chronological and linguistic. This study will fill that gap by considering the shift in aesthetic attitude towards the mountain in Neo-Latin texts from 1450 to 1750.

The focus here on Neo-Latin literature allows this thesis to date the mountain mentality shift two centuries earlier than previous studies have indicated. The established *communis opinio* of late 19th and early 20th century scholarship situated the 'discovery of the mountain' in the middle of the 18th century. Two works are typically cited as responsible for this awakening of a feeling for the mountain: Albrecht von Haller's *Die Alpen* (1728) and Jean-Jacques Rousseau's *La nouvelle Héloise* (1761).[11] While these immensely popular works did much to propagate a new attitude towards the mountain, they cannot be considered the instigators of the mountain mentality shift.

In 1959 Nicolson's work in *Mountain Gloom and Mountain Glory* went some way to refining views on the mountain mentality question. She looked for the causes and triggers of the attitude change outside the realm of *les belles lettres* and

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mountain experiences, and the group of Swiss writers whose similarly enthusiastic texts he collected and reprinted, see: ii) *Prospectus—Gesner Frames the Mountain*; vi) Gaeographia—Aretius: Mountain Enthusiasm and Autopsy; vii) *Gaeographia et Prospectus—Chorography becomes Art* and xii) *Prospectus—Geography and Landscape Art come together* in *Gaeographia, Prospectus, Pictura* below.

[9] Burnet, T. 1681, *Telluris Theoria Sacra Orbis Nostri Originem et Mutationes Generalis, quas iam subiit, aut olim subiturus est, complectens; Libri duo priores de diluvio et paradiso* (London).

[10] For the place of the discussion over mountains in particular within the larger debate over the natural history of the earth see: *Theologia et Philosophia Naturalis* below, in particular subchapters: iii) *Natural Philosophy, Mountains of the Mind and Aesthetics;* v) *Biblical Positions—Mountains in Genesis and Berhardus Varenius;* vii) *Aesthetics of Nature in Theology: Commentaries on Genesis;* viii) *The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy* and ix)*'The World Makers', John Woodward and* Dissertationes de Montibus.

[11] For standard view that the processes of discovering of the mountain belongs to the 18th century see: Biese, *The Development of the Feeling for Nature in the Middle Ages and Modern Times* and particularly: K. Ziak, *Der Mensch und die Berge* (Vienna, Zürich, Prague, 1936), 28–41. Albrecht von Haller (1708-1777) wrote *Die Alpen* in 1728. The poem first appeared in a collected volume of poems entitled *Versuch der Schweizerischer Gedichten* in 1732, (Bern). J. J. Rousseau's *Julie, ou la nouvelle Hélouise* was originally published in 1761 with the title *Lettres de Deux Amans, Habitans d'une petite Ville au pied des Alpes* (Amsterdam) [the spelling here follows that of the original French.]

lighted upon Burnet's natural philosophical work, written 50 years prior to *Die Alpen*. Characteristically for these earlier studies, however, Nicolson made the issue a national one. By searching for a particularly English answer to the question of when mountains became places of aesthetic experience, *Mountain Gloom and Mountain Glory* could only get so far.

The world of Neo-Latin literature—roughly defined as Latin written from the time of Petrarch to the modern day—has so far been overlooked in the search for the catalysts and early expressions of the shift in attitude towards the mountain.[12] This is surprising: the Latin language served as the *lingua franca* for works of science, education and diplomacy from the Renaissance to the Early Modern period. It was also the dominant international literary language throughout this period. Only in 1681 did German language books overtake Latin at the Frankfurter Buchmesse, for example, (still) the world's most important book trade fair. And it would take another half-century before German gained any serious dominance over Latin at Frankfurt, overcoming it by 75 per cent only in 1735.[13]

iii) Latin as a Progressive Force in the Renaissance and Early Modern Period—The Case of Mountain Aesthetics

Alongside telling the story of the role of Neo-Latin literature in the change in aesthetic attitude towards the mountain, this study also contributes towards proving a broader thesis, namely that Neo-Latin literature can be understood as a progressive force in Early Modern culture which made significant contributions to the modern mentalities we share today. The idea that Neo-Latin constitutes a body of literature worthy of study in its own right has only just started to establish itself in academia. Formerly scorned by 19th century scholarship as poor quality

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[12] J. IJsewijn and D. Sacré, *Companion to Neo-Latin Studies. Part I: History and Diffusion of Neo-Latin Literature*, (Louvain, 1990), v, defines the field of Neo-Latin Studies as concerned with "all writings in Latin since the dawn of humanism in Italy from about 1300AD, viz. the age of Dante and Petrarch, down to our time." J. Bloemendal, C. Fantazzi, and C. Kallendorf, define the discipline's period in the same way in their preface to *Brill's Encyclopedia of the Neo-Latin World: Macropaedia* ed. P. Ford, J. Bloemendal, and C. Fantazzi (Leiden, Boston, 2014)—the fullest and most up-to-date overview of the field: "from roughly the time of Petrarch to the present". D. Verbeke confirms these boundaries in his chapter LXVI: "History of Neo-Latin Studies," in *Brill's Encyclopedia of the Neo-Latin World*: 907.

[13] A. Würgler, *Medien in Der Frühen Neuzeit*, vol. 84, Enzyklopädie Deutscher Geschichte (Munich, 2009): 40.

derivative literature, Neo-Latin was largely the preserve of classicists seeking echoes of their ancient authors or historians pursuing evidence until the last century.[14] With the arrival this year of *Brill's Encyclopaedia of the Neo-Latin World,* the forthcoming publication of both the *Cambridge Guide to Reading Neo-Latin* and the *Oxford Handbook of Neo-Latin,* along with the establishment of the first dedicated Institute of Neo-Latin Studies in 2011, the work done by the first generation of Neo-Latin scholars since the first edition of Jozef IJsewijn's *Companion to Neo-Latin Studies* (1977) can truly be said to have borne fruit.[15] There remains, however, much work to be done in order to establish at an institutional level that the study of Neo-Latin as a body of literature in its own right can yield significant results for the understanding of the Renaissance and Early Modern period, and ultimately the creation of the modern world.

The Early Modern changes in attitude towards nature are among the most significant mentality shifts that separate the modern mind from the pre-modern.[16] The history of attitudes towards nature, then, provides an ideal field in which to demonstrate Latin's force as a progressive literature in the last 500 years. The mountain in particular is an especially revealing case study with which to analyse these changes because attitudes towards the mountains underwent a polar shift in the Late Renaissance and Early Modern Period: they were previously considered frightful and ugly or, at best, uninteresting. Now, however, they are frequently seen as beautiful and exhilarating, ideal places for an escape from urban life.

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[14] J. Hankins, *Humanism and Platonism in the Italian Renaissance. Vol. 1: Humanism*, vol. 215, Storia e Letteratura: Raccolta di Studi e Testi (Rome, 2003), 544: "The Romantics, like the Enlightenment *philosophes* before them, dismissed modern Latin literature as a collection of second-rate pastiche, untouched by passion or original genius. Historians of literature in the nineteenth century saw Neo-Latin texts as at best schoolroom exercises, at worst a kind of literary canker, infecting the national literatures and inhibiting their growth."

[15] P. Ford, J. Bloemendal, and C. Fantazzi, eds., *Brill's Encyclopedia of the Neo-Latin World*, 2 vols., (Leiden, Boston, 2014); S. Tilg and S. Knight, eds., *Oxford Handbook of Neo-Latin* (Oxford, 2015); V. Moul, ed., *Cambridge Guide to Reading Neo-Latin* (Cambridge, 2015); J. IJsewijn, *Companion to Neo-Latin Studies* (Louvain: Leuven University Press, 1977). The Ludwig Boltzmann Institute for Neo-Latin Studies was established in Innsbruck, Austria in 2011. These examples represent only a handful of the most recent landmarks in the progress of Neo-Latin Studies. The institution of dedicated journal series, including, for example, the *Neulateinisches Jahrbuch*; book series such as *NeoLatina*; numerous national Neo-Latin Societies; the International Association of Neo-Latin Studies (IANLS) and the Seminarium Philologiae Humanisticae at KU Leuven still only represents a fraction more of the whole exciting picture.

[16] For an overview of the various changes in attitude towards nature in the Early Modern Period see: G. Thüry, H. Kühnel, and R. P. Stieferle, "Natur/Umwelt," in *Europäishce Mentalitätsgeschichte*, ed. P. Dinzelbacher (Stuttgart, 1993): 556-91. For further changes in mentality during this period see: C. Taylor, *Sources of the Self: The Making of the Modern Identity* (Harvard, 1989).

The case of the *aesthetic* change in attitude towards the mountain during the Late Renaissance and Early Modern Period is, in turn, one of the most fascinating parts of the mountain mentality shift. Nicolson's *Mountain Gloom and Mountain Glory* has earned itself the title of "a classic text in eco-criticism" by considering the aesthetic question.[17] And it is the aesthetic aspects of the mountain landscape which usually come to the fore in expressions of the 'modern mountain attitude'. We have already seen the Romantics' enthusiasm for the aesthetic delights they found among the mountains in the opening paragraph of this introduction.[18] But the leaning towards aesthetic considerations still persists in even more recent mountain literature. To take an example from a modern classic of English mountain writing, we read in Alfred Wainwright's (1907-1991) description of Langdale's Pike o'Blisco:

> This peak [Pike o'Blisco] has great character, for shapeliness and a sturdy strength combine well in its appearance, and that splendid cairn etched against the sky is at once an invitation and a challenge . . . There are higher summits all around, some of far greater altitude; but height alone counts for nothing and Pike o'Blisco would hold its own in any company.[19]

In this passage, it is Pike o'Blisco's "shapeliness and sturdy strength" which contribute well to its "appearance". Overall these aesthetic features give the mountain "great character" which Wainwright ultimately sees compensating for what the Pike lacks in height.

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[17] *Mountain Gloom and Mountain Glory* was re-printed and released in 1997 with a preface by W. Cronon: M. H. Nicolson, *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite. Reissued with a Foreword by William Cronon* (Washington, 1997). This laudatory citation appears on p. v of the foreword.

[18] See i) *Prelude: Two Mountain Views 1537 and 1802* above for Wordsworth's view from the mountain. See also Nicolson's Chapter 8 "A New Descriptive Poetry", *Mountain Gloom and Mountain Glory* 324-369 for an overview of the new mountain aesthetic after the process of change she describes after Burnet's *Sacred Theory*. *Cf.* also, for example, a nice passage from Byron's *Childe Harold's Pilgrimage* IV.153-159: Thou movest—but increasing with the advance,/ Like climbing some great Alp which still doth rise,/ Deceived by its gigantic elegance;/ Vastness which grows, but grows to harmonize—/ All musical in its immensities.

[19] A. Wainwright, *A Pictorial Guide to the Lakeland Fells. Book Four—The Southern Fells*, 2nd ed. (London, 2007). Alfred Wainwright produced a full series of illustrated guides to the fells of the English Lake District between 1955 and 1966. Descriptions such as the one cited are common throughout all seven volumes of the work. For Wainwright, aesthetic concerns seem to have been important. His sensitivity to the appearance of the mountains is evident in his hand-illustrations which form the core of the series. Now entering its third edition—complete with original drawings—the series is still regarded by most as the definitive guide to the Lakeland Fells.

Aside from the tradition of aesthetic eco-criticism in which *Mountain Gloom and Mountain Glory* has been prominent during the last 50 years, and the emphasis on the mountain's appearance in modern descriptions, the recent growth of interest in nature as an object of study in philosophical aesthetics makes the focus here on the development of the aesthetics of the mountain all the more pertinent.[20] After a long period of being considered the preferred object of aesthetic appreciation in the Western intellectual tradition, nature became secondary to art following Hegel's influential philosophy.[21] During the nineteenth and early twentieth centuries the study of aesthetics was almost synonymous with philosophy of art. Ronald Hepburn's seminal 1966 article "Contemporary Aesthetics and the Neglect of Natural Beauty" set the agenda, however, for a return to the philosophical consideration of the aesthetics of nature.[22] After nearly 50 years of study in this field a dominant model has begun to emerge: the so-called 'natural environmental model' of Alan Carlson.[23]

Carlson's model favours a cognitive approach to the study of the aesthetic appreciation of nature. It is built around the conviction that the information provided by natural science should guide the appropriate appreciation of nature.

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[20] Within the growing body of literature on 'environmental aesthetics' R. W Hepburn's article: "Contemporary Aesthetics and the Neglect of Natural Beauty," in *British Analytical Philosophy*, ed. Williams, B. and Montefiore, A., vol. 13 (London, 1966), 285–310 is taken as the formative piece in the rebirth of the subject. This article was followed by: R. W. Hepburn, "Aesthetic Appreciation of Nature," in *Aesthetics in the Modern World*, ed. Osborne, H. (London, 1968), 49–66. For a recent summary of the field with reference to the historical background of aesthetics of nature see: Carlson, A., "Environmental Aesthetics," in *The Stanford Encyclopedia of Philosophy*, ed. Zalta, E. N., 2012. See also chapter four below: *Aesthetics of Nature: the case of the mountain mentality change* and the subchapters: i) *Introduction*; ii) *The Appreciation of Nature in Modern Philosophical Aesthetics—An Overview*; ii. α) *Historical Background*; ii. β) *Neglect and Rebirth of Aesthetics of Nature*; iii) *Current Positions in the Aesthetics of Nature* in particular.

[21] Hegel's ideas on aesthetics were set down in his *Vorlesungen über die Philosophie der Kunst* which were published after his death in 1823. For his privileging of art over nature as aesthetic object see G. W. F. Hegel, (T. M. Knox trans.), *Aesthetics: Lectures on Fine Art* (Oxford, 1998), with particular reference to the second book. See also the subchapter ii. β) *Neglect and Rebirth of Aesthetics of Nature* in *Aesthetics of Nature: the case of the mountain* below.

[22] Hepburn, R. W., "Contemporary Aesthetics and the Neglect of Natural Beauty."

[23] Carlson began to develop his model in a number of early articles including: "Formal Qualities in the Natural Environment," *Journal of Aesthetic Education* 13, **3** (1979): 99–114; "Appreciation and the Natural Environment," *Journal of Aesthetics and Art Criticism* 37, **3** (1979): 267–75; "Nature, Aesthetic Judgment, and Objectivity," *The Journal of Aesthetics and Art Criticism* 40, **1** (1981): 15–27. His theory received a book length treatment in 2000: Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture* (London, 2000). He has recently authored a volume introducing the field of environmental aesthetics: Carlson, A., *Nature and Landscape: An Introduction to Environmental Aesthetics* (New York, 2013). See the subchapter: iv) *The Natural Environmental Model* in *Aesthetics of Nature: the case of the mountain mentality change* below for an outline of the model, its features and theoretical underpinnings.

While Carlson's model must be considered the theory currently leading in the field, it is largely based on a synchronic approach to the study of the aesthetics of nature. On the occasions that Carlson does adopt a diachronic perspective in the development of his position, he refers to the writing of the early American environmentalists, typically John Muir (1838-1914) and Aldo Leopold (1887-1948).[24] These thinkers are an important part of development of the modern aesthetic attitude towards nature, but they are certainly not its originators. By taking the revealing example of the mountain and looking back to the very start of the shift in aesthetic attitude towards nature in previously unstudied Neo-Latin texts, this study uncovers material that offers meaningful insights into some of the key issues in the modern environmental aesthetics debate.

In particular, the new Neo-Latin sources offer crucial evidence in two areas. From the development of a new aesthetics of the mountain in natural philosophical and theological texts, the Latin material provides fresh, primary evidence to support the scientific underpinnings of Carlson's natural environmental model.[25] Out of the nexus of texts which deal with the description of mountainous landscape in geographical, topographical and art historical contexts—an area in which *Mountain Gloom and Mountain Glory* has been found to be deficient—the Latin material offers evidence to support the inclusion of formalist ideas into an appropriate aesthetics of nature.[26]

iv) Sketch of the Study's Contentions

The study thus attempts to fulfil its twofold briefs: firstly, it offers a new account of the mechanisms and manner of change in aesthetic attitude towards mountain in the Late Renaissance and Early Modern Period from previously

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[24] For some of the best known nature writing of these two early environmentalists see *inter alia*: J. Muir, *The Mountains of California* (New York, 1894); A. Leopold, *A Sand County Almanac: And Sketches Here and There* (Oxford, 1949). For a modern analysis of Leopold's aesthetic of nature see: J. Baird Callicott, "Leopold's Land Aesthetic," in *Nature, Aesthetics and Environmentalism: From Beauty to Duty*, ed. A. Carlson and S. Lintott (New York, 2008), 108–18. For examples of Carlson's use of material from Leopold in particular see: A. Carlson "Contemporary Environmental Aesthetics and the Requirements of Environmentalism" *Environmental Values,* 19, 2010, 289-314.

[25] For the culmination of this argument see: vii) *The Historical Approach: The Role of Natural Science in Aesthetic Appreciation of Nature* in *Aesthetics of Nature: the case of the mountain mentality change* below.

[26] For this argument see: viii) *The Historical Approach: Landscape and the Aesthetic Appreciation of Nature* in *Aesthetic Appreciation of Nature* in *Aesthetics of Nature: the case of the mountain mentality change* below.

unstudied Neo-Latin texts. Secondly, it offers evidence to support the thesis that this Neo-Latin material yields rich and valuable results from close reading as a body of literature in its own right by bringing its conclusions to bear on the modern debate over the aesthetics of nature.

The layout of the thesis reflects these dual aims. The first chapter sketches the ancient and biblical heritage of mountain writing, before the second chapter *Gaeographia, Prospectus, Pictura* analyses the roles of the chorographical tradition and landscape art—connected in the Latin source material through the word *prospectus*—in the mountain mentality change. Chapter three then considers the various theoretical positions on the formation, use and, ultimately, aesthetic value of the mountains in theological and natural philosophical works. The conclusions of these two chapters are then brought together in the concluding chapter *Aesthetics of Nature: the case of the mountain* to apply the results of this new Latin research to the modern aesthetics debate.

v) Time Frame and Overview of the Mountain Mentality Change

This study covers a period of roughly 300 years, from 1450 to 1750. More precisely, it deals with a series of Neo-Latin texts engaged with the key themes and developments in the Late Renaissance and Early Modern change in aesthetic attitude towards the mountain and the mountain landscape. The earliest text on which it draws for primary evidence is Leon Battista Alberti's *Descriptio Urbis Romae* (1447). The latest is Alexius Planch's *Dissertatio physico-historica de Montibus una cum Conclusionibus ex Universa Philosophia selectis* (1754).

This time frame is consistent with the mentality shift that is the focus of the study: in mid-fifteenth century advances in the understanding of perspective prepared the way for the development of a concept of 'landscape'.[27] Associated with this process, new interest in the geographical description of Europe's countries—most notably in the Germanic countries—began to change attitudes to mountain

[27] V. della Dora, "Topia: Landscape before Linear Perspective," *AnnAAG* 103, **3** (2013): 688–709; Denis Cosgrove, "Prospect, Perspective and the Evolution of the Landscape Idea," *TIBG*, New Series, 10, **1** (1985): 45–62; R. Z. DeLue and J.Elkins, *Landscape Theory* (London, 2008). See also below: *Prospectus*—Gesner Frames the Mountain; iii) *Gaeographia*—The Mountain in Chorography and iv) *Gaeograhia*—Geography into Art*:* Alberti in *Gaeographia, Prospectus, Pictura* below.

landscapes from the early sixteenth century onwards.[28] At the same time, developments in theory and practice in both Italy and southern Germany helped to shift aesthetic opinions about natural subjects—including the mountain—in the visual arts.[29] These factors created a nexus of aesthetic interest in the mountain in Switzerland during the long sixteenth century. Other factors, including a growing feeling of Swiss patriotism as well as changes in attitude towards the body and sport, also contributed to the growing general attention to mountains at this time. However, the impetus provided by geography, landscape art and the development of the 'landscape idea'—especially when they came together—produced the most significant change in *aesthetic* attitude. For this reason, these threefold topics are the subject of investigation in *Gaeographia, Prospectus, Pictura*.

Later, from the mid- sixteenth to early seventeenth centuries, questions over the mountain also began to grow in significance in scientific and theological debate about the natural world.[30] This discussion culminated in the late seventeenth century with a number of 'theories of the earth', which offered explanations of the origin, appearance and role of the mountains as part of their overarching models for the creation and ordering of the world.[31] As part of these theories and the debates

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[28] C. B. Kennedy, J. L. Sell, and E. H. Zube, "Landscape Aesthetics and Geography," *ER* ,12, **3** (1988): 31–55, ; L. L. J. Gallois, *Les géographes allemands de la Renaissance* (Paris, 1890); G. Strauss, *Sixteenth-Century Germany: Its Topography and Topographers* (Madison, 1959); Gerald Strauss, "Topographical-Historical Method in Sixteenth-Century German Scholarship," *SR* 5 (1958): 87–101. See below: v) *Gaeographia*—Geography's Rebirth in Germania and vi) *Gaeographia*—Aretius: Mountain Enthusiasm and Autopsy in: *Gaeographia, Prospectus, Pictura* below.

[29] O. Benesch, "The Rise of Landscape in the Austrian School of Painting at the Beginning of the Sixteenth Century," *KonstTid/JAH* 28, **1–4** (1959): 34–58; J. P. Hinga, "The Landscape Tradition in Italian Painting: A New Relationship," *The Southwestern Louisiana Journal*, 1958, 215–25; P. Humfrey, "Two Moments in Dosso's Career as a Landscape Painter," In: Ciammitti, L., Ostrow, S. F., Settis, S. (eds.) *Dosso's Fate: Painting and Court Culture in Renaissance Italy*, 1998, 201–19; E. H. Gombrich, "The Renaissance Theory of Art and the Rise of Landscape," in *Norm and Form: Studies in the Art of the Renaissance* (Oxford, 1978), 107–22. See below: vii) *Gaeographi et Prospectus* — Chorography becomes Art; viii) *Pictura—Prospectus* and the Mountain in Text; ix) *Pictura*—Early Landscape Art and the Mountain; x) *Pictura*—Latin and the Rise of the Landscape Genre in *Gaeographia, Prospectus, Pictura*.

[30] G. D. Rosenberg, "The Measure of Man and Landscape in the Renaissance and Scientific Revolution," *Geological Society of America Memoirs* 203 (April 1, 2009): 13–40; I. Dal Prete, "Valerio Faenzi e l'origine dei monti nel Cinquecento veneto," in *Johann Jakob Scheuchzer (1671-1733) et la découverte des Alpes: les Itinera alpina*, ed. Boscani Leoni, S., Éditions du Comité des Travaux Historiques et Scientifiques (Paris, 2008), 197–214; M. Schramm, "Die Entstehung der modernen Landschaftswahrnehmung (1580–1730) (The Making of a New Landscape Perception)," *HZ* 287, **1** (2008). See: iii) Natural Philosophy, Mountains of the Mind and Aesthetics; iv) The Mountains and their Origins—*l'état de question* 1561; v) Biblical Positions—Mountains in *Genesis* and Berhardus Varenius; vi) A Smooth Primaeval Earth—Josephus Blancanus and vii) Aesthetics of Nature in Theology: Commentaries on *Genesis* in the chapter *Theologia et Philosophia Naturalis* below.

[31] Poole, W., *The World Makers: Scientists of the Restoration and the Search for the Origins of the Earth* (Oxford, 2010); Nicolson, *Mountain Gloom and Mountain Glory*; F. A. Adams, *The Birth And*

that surrounded them, aesthetic questions over the mountain gained in significance until they earned distinct, separate treatments in texts dedicated to the mountain from late seventeenth to early eighteenth centuries.[32] By means of the attention it received in international theological and natural philosophical debate, aesthetic interest in the mountain had now spread outside of Switzerland and onto a European stage. The enthusiasm for the mountain that Gesner and his correspondents had felt would not show again among natural philosophers and theologians from outside of Switzerland until much later, and then mainly in the vernacular. Swiss Latin writers of natural history and religion at the start of the eighteenth century did, however, bridge the gap between Gesner's aesthetic appreciation of the mountains and their own. They knew his group's texts and cited them at length.[33]

By this time, the transformation of aesthetic attitudes towards the mountain in European mentality was complete. So, too, was Latin's role in communicating new ideas about aesthetic experience of the mountain landscape. Now, vernacular texts such as von Haller's *Die Alpen* and Rousseau's *La nouvelle Héloise* began to make the changed image of the mountain popular.

vi) *L'histoire des Mentalités*

The broad temporal range and the array of primary source material which this study encompasses are consistent with approaches to narrating widespread changes in attitude known as the 'history of mentalities'. This type of history considers basic attitudes towards fundamental elements of human existence and

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Development Of The Geological Sciences (Baltimore, 1938), *Reconceptualizing Nature, Science, and Aesthetics*, vol. 1, Travaux Sur La Suisse Des Lumières (Geneva, 1998). See viii) The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy and ix) 'The World Makers', John Woodward and *Dissertationes de Montibus* in the chapter *Theologia et Philosophia Naturalis* below.

[32] Boscani Leoni, S., "Johann Jakob Scheuchzer (1671-1733 et la découverte des Alpes: les Itinera alpina," in Demeulenaere-Douyère, C. (ed), *Explorations et voyages scientifiques de l'Antiquité à nos jours*, Éditions du Comité des Travaux Historiques et Scientifiques (Paris, 2008), 81–100; Boscani Leoni, S., "La ricerca sulla montagna nel Settecento sotto nuove prospettive: il «network» anglo-elvetico-alpino," in *Traditions et modernités – Tradition und Modernität*, Geschichte der Alpen – Histoire des Alpes – Storia delle Alpi, XXII (Zürich: Chronos, 2007), 201–13; R. Steixner, *Philosophia Historica de Montibus: Eine Dissertationsschrift Der Universität Innsbruck aus dem Jahr 1713 — Text Überstezung, Kommentar*, Studia Interdisciplinaria Aenipontana 13 (Vienna, 2009); P. Giancomoni, "Il sorgere dell'interesse per le montagne tra Sei e Settecento (con particolare riferimento alla cultura italiana)," in *Die Alpen! Les Alpes!*, ed. J. Matthieu and S. B. Leoni (Bern, 2005), 129–40.

[33] See below: *Theologia et Philosophia Naturalis* subchapters x) *Scheuchzer's Itinera Alpina and the Changed Mountain Aesthetic* and xi) *Scheuchzer's Natural Philosophy*.

environment such as time, nature and death.[34] Attitudes to such fundamentals are often considered 'natural', but over centuries—and between cultures—these mentalities can change. The shift in aesthetic attitude towards the mountain is one such example.

The goal of this study is to understand the various strands of thought and influence that contributed towards this broad shift in worldview in texts written by individuals who documented the change consciously or otherwise. While precocious thinkers and texts *avant la lettre* are undoubtedly important, their significance does not outweigh the evidence provided by texts which clarify and distil the contemporary progress of the mentality shift at any given point in history. It is often these texts capturing the *current* state of the feeling for the mountain—rather than their forerunners—which help most in following this broad and lengthy change in attitude, and orientating oneself within it.

A Final Consideration: Petrarch, *Fam.* IV.1

On 26th April 1336, Francesco Petrarca climbed Mont Ventoux, a 1,912m peak in Provence. He wrote a letter about his experience addressed to Augustinian Dionigi da Borgo Sansepolcro, a former mentor and friend. The letter, *Familiares* IV.1, is one of Petrarch's most famous literary accomplishments. On the basis of *Fam.* IV.1, Petrarch has been hailed as the first to have attested the significance of the modern feeling for landscape: "Vollständig und mit größter Entschiedenheit bezeugt dann Petrarca, einer der frühesten völlig modernen Menschen, die Bedeutung der Landschaft für die erregbare Seele."[35] The letter has also been seen as "den Anfang einer neuen ästhetischen Weltneugier und sinnenhaften Naturerfahrung."[36]Already in 1943, however, Lynn Thorndike had cast serious doubts over the significance of Petrarch's letter as evidence for a change in attitude

[34] R. Mandrou, "L'histoire des Mentalités," *Encyclopaedia Universalis* 8 (1968): 436–38 describes the field's interests as follows: "L'histoire des mentalités se donne pour l'objectif la reconstitution des comportements, des expressions et des silences qui traduisent les conceptions du monde et les sensibilités collectives; représentations et images, mythes et valeurs reconnues ou subies par les groupes ou par la société globale, et qui constituent les contenus des psychologies collectives, fournissent les éléments fondamentaux de cette recherche." P. H. Hutton, "The History of Mentalities: The New Map of Cultural History," *HT* 20, **3** (1981): 237–59 describes the discipline's relationship to the French *Annales* school and its place in the tradition of historical studies descended from idealist historians such as Burckhardt.

[35] J. Burckhardt, *Die Kultur der Renaissance in Italien* (Basel, 1859) [reprint Cologne 1956]: 147.

[36] H. R. Jauß, *Ästhetische Erfahrung und literarische Hermeneutik*, 2nd ed. (Frankfurt, 1984): 140.

towards nature: " . . . all that Petrarch's account proves is his capacity for story-telling and sentimental ability to make a mountain out of a molehill."[37] And by 1966 Giuseppe Billanovich had exposed Petrarch's fictive dating of the letter, suggesting that the real date of composition was more likely to have been 1352/3—the date currently accepted by scholarship.[38]

The problematic dating of the letter alone does not reduce its significance as a piece of early evidence for the modern mountain feeling. The allegorical mode in which the letter is written, however, does limit the extent to which it can be read as a piece of mountain literature *tout court.* As Rodney Lojak writes in the introduction to his 2006 edition of the letter: "To all intents and purposes, it is a letter written, like his *Posteritati*, to us, his future readers on the theme not of climbing *this* mountain, but on the theme of climbing *the* mountain. That is to say it is a discussion of those great issues of life such as 'moving on', brotherhood, friendship, Delphic self-knowledge and pilgrimage. It is also, furthermore, about death, life choices, poignant abandonment, and presents a rather touching and very human yearning for home, whatever and wherever this 'home' may be".[39] In other words, *Familiares* IV.1 is about anything but a mountain experience, even less about Mont Ventoux in particular.

Moreover, for the particular aesthetic interests of this study, Petrarch's Mont Ventoux letter provides little substantial material. It is true that the letter begins with an aesthetic impetus:

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[37] L. Thorndike, "Renaissance or Prenaissance?," *JHI* 4, **1** (1943): 72.

[38] G. Billanovich, "Petrarca e Il Ventoso," *IMeU* 9 (1966): 389–401. Earlier than Billanovich V. Rossi had already noticed that the dating of the letter was suspicious in: "Sulla formazione delle raccolte epistolari pertrarchesche," *ADCP* 3 (1932): 62–73. For more on the determination of the actual date of composition for the letter see: D. Gall, "Augustinus auf dem Mt. Ventoux. Zu Petrarcas Augustinus-Rezeption," *MlatJb* 35 (2005): 301–22. The later date for letter has been accepted by the two most recent editions of the piece: M. Formica, M. Jakob, and A. Zanzotto, *La Lettera del Ventoso: Familiarium Rerum Libri IV.1* (Verbania, 1996) and R. Lojak, *Petrarch's Ascent of Mount Ventoux: The Familiaris IV.1* (Rome, 2006). Lojak's introduction to the text, in particular pp. 28-43, is very helpful in setting out the dating issues and the consequences of considering the letter fictive. I've have used Lojak's text and translation in what follows. For more on *Familiares* IV.1 as a piece of literary fiction see: A. Kablitz, "Petrarcas Augustinismus und die écriture der Ventoux-Epistel," *Poetica* 26 (1994): 31–69. The history of the scholarship on the letter and a review of most of the commonly held positions on it is usefully provided by: H. Hofmann, "War er oben oder nicht? Retraktationen zu Petrarca, Familiares 4, 1," in Kofler, W., Korenjak, M., and Schaffenrath, F. (eds.) *Gipfel der Zeit: Berge in Texten aus fünf Jahrtausenden*, Paradeigmata 12 (Freiburg i.Br., 2010), 81–102.

[39] Lojak, *Petrarch's Ascent of Mount Ventoux: The Familiaris IV.1*, 14. The italics are Lojak's own. For an overview of the discussion over the allegorical mode of the piece see: R. Durling, "The Ascent of Mt. Ventoux and the Crisis of Allegory," *IQ* 18 (1974): 7–28, revised and reprinted as: "Il Petrarca, Il Ventoso e la possibilità dell'allegoria," *REA* 23 (1977): 304–23.

> *Altissiumum regionis huius montem, quem non immerito Ventosum vocant, hodierno die sola videndi insignem loci altitudinem cupiditate ductis ascendi.*[40]
>
> Today, driven by the sole desire to see the famous altitude of this place, I climbed the highest mountain in this region which, not undeservedly, they call Ventoux (The Windy Mountain).

And that once on top of the mountain, Petrarch stops to consider the view:

> *Primum omnium spiritu quodam aeris insolito et spectaculo liberiore permotus, stupenti similis steti.*[41]
>
> Struck first of all by an uncommon breath of air and a wider view, I stood there as if dumbfounded.

But these suggestions of aesthetic appreciation of the mountain and the mountain landscape are subordinated to Petrarch's personal and more inward-looking concerns throughout the letter. And after opening his copy of Augustine's *Confessions* on the summit, Petrarch explicitly rejects any admiration of his mountain surroundings:

> *. . . librum clausi, iratus michimet quod nunc etiam terrestria mirarer, qui iampridem ab ipsis gentium philosophis discere debuissem "nichil preter animum esse mirabile, cui magno nichil est magnum."*[42]
>
> . . . I closed the book. I was angry with myself that I should have been marvelling at earthly things at that very point. I should have learnt a long time before, even from non-Christian philosophers, "that nothing except the soul is wondrous and that, compared to the soul, nothing is great."

Petrarch's fictive, allegorical and ultimately self-absorbed and introspective letter represents a very different sort of mountain experience—if it was a mountain

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[40] Pet. *Fam.* IV.1.1
[41] Pet. *Fam.* IV.1.17
[42] Pet. *Fam.* IV. 1.28. Petrarch cites *nichil preter . . . est magnum* from Sen, *Epist.*, VIII.5. The passage from St. Augustine which Petrarch reads on the summit is *Conf.* X.8.15: *Et eunt homines admirari alta montium et ingentes fluctus maris et latissimos lapsus fluminum et oceani ambitum et giros siderum, et relinquunt se ipsos.* The copy of the *Confessions* which Petrarch takes up the mountain is the one that Dionigi da Borgo Sansepolcro, his addressee in the letter, had given him as a gift. He calls it *caritatis tue munus* at *Fam.* IV. 1.26.

experience at all—to those which we will now consider in the following chapters of this study.

2. The Mountain in Latin: Literary Heritage

Vides ut alta stet nive candidum
Soracte, nec iam sustineant onus
Silvae laborantes, geluque
Flumina constiterint acuto?[1]

Do you see that Soracte stands white
with deep snow and that the woods burdened down
can't support their load, and that the rivers
too have frozen solid with sharp ice?

i) The Mountains in the Classical Tradition: Introduction

Horace's Soracte Ode makes for a convenient opening to a chapter on the literary heritage of the image of the mountain in Latin. Horace's Soracte represents in many ways a typical mountain image in Classical Latin literature. The extent to which it differs from this general picture is also useful in introducing the ideas that made up, and were attached to, the mountain in Roman writing.

Soracte, known today as Soratte, stands in the province of Rome, Italy. Despite its relatively small stature in comparison with the neighbouring Apennines and the Alps to the north, the 691 metre high ridge is certainly prominent in its surroundings. For the Romans then, Soracte was a *mons*.[2] Although frequently and correctly translated as 'mountain' in English, the two words are not exactly equivalent. *Mons* can refer to any heaped up mass, from *argenti mons* 'a mountain of silver' to a heap of stones on the back of a wagon.[3] In this figurative sense, the use of *mons* does not differ much from the way that the word 'mountain' is used in English. In one important aspect, however, the use of *mons* in Latin does diverge from the English 'mountain': it does not necessarily single out a particular peak. For this reason the Jura mountain range located to the north of the western Alps

[1] Hor., *Carm.* I.9. For the citations of classical authors that follow in this chapter, I use the texts as establised by the *Scriptorum Classicorum Bibliotheca Oxoniensis* (Oxford Classical Texts) series unless unavailable or otherwise stated. Abbreviations of ancient authors and ancient texts follow the fourth edition of S. Hornblower, A. Spawforth and E. Eidinow, *Oxford Classical Dictionary* (Oxford University Press 2012). Translations of Latin and Greek passages are my own unless specified otherwise.
[2] *Cf.* Plin., *HN,* VII.2. In the absence of an OCT edition, I have used the Teubner 1909 text of Pliny the Elder's *Naturalis Historiae* in what follows.
[3] Plaut., *Mil.* IV.2.73; Juv., III.258.

and which spreads over the borders between France, Switzerland and Germany, could be called *mons Jura*.[4] Olympus, similarly, refers to a range of 52 peaks of which the highest, Μύτικας 'the nose', reaches to 2,918 metres of altitude. Soracte itself is a case in point since the *mons* is in fact a ridge with several peaks.

This breadth in the use of *mons* is not to say that Latin does not have terms to designate peaks, ridges and ranges, however. *Arx* can mean 'peak', while *iugum* is the saddle of a mountain.[5] *Dorsum* can take the meaning of 'ridge' and *scopulus, rupes* and *cautes* all refer to varieties of cliff or outcrop.[6] But the specific meanings of these words were not always necessarily employed: with the exception of *cautes* all these words can also be used in Latin with an extended meaning to refer to what an English speaker would call a 'mountain'. The breadth of meaning among the words referring to the mountain and its parts even extends to what is commonly thought to be an important distinction in referring to mountains in English: even *collis* 'a hill' can also be used to refer to what are usually *montes* in Latin.[7]

This said, mountains are always—in both languages—high places, at least in relation to their immediate surroundings. In Horace's lines it is not Soracte which is *altus* 'tall', rather the snow on the mountain which is *alta* 'deep'. But the polyvalence of the word *altus* in Latin works nicely in Horace's opening line. The word can designate something 'having a great extension upwards' or 'downwards' as well as something 'high', 'deep' or 'thick'. Although grammatically dependant on *nive* in Horace's lines, the association of the word with Soracte through enallage would not be incongruous in this context.[8]

It will not seem too naïve to say, then, that the majority of the things commonly written about the mountains in Latin are directly related to its height. This is to say that for the Romans, although the mountain did come to represent something other than just a high mass of earth, their ideas did not often progress more than one or two removes from the notion of their altitude. The point at which these ideas do change and develop in Latin will be the focus of this study's subsequent chapters. But one notion consistently associated with the mountain

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[4] W. W. Hyde, "The Ancient Appreciation of Mountain Scenery," *CJ* 11 (1915): 80.
[5] *E.g.* Ov., *Met.* I.467; Verg., *Ecl.* V.76.
[6] For *dorsum* see: Livy, XLIV.4; *scopulus*: Verg. *G,.* III.261; *rupes:* Caes. *BGall.,* II.29; *cautes*: Ov. *Met.,* IV.672.
[7] *E.g.* Helicon as *mons*: Ov. *Met.,* II.219, but Helicon as *collis:* Catull. LXI.1.
[8] D. W. T. Vessey, "From Mountain to Lovers' Tryst: Horace's Soracte Ode," *JRS* 75 (1985): 28. For the meaning of *altus* see: *OLD s.v.*

through its height—as much by the Romans as in the attitude towards the mountain that later developed—is the snow-capped peak. As Horace puts it '*alta stet nive candidum / Soracte'.* The mountains of Italy and the Alps are to this day often pictured dusted with snow. Indeed, many of them are actually capped with ice and snow throughout the whole year. Related to the mountains' white peaks is the *gelu acuto* 'sharp ice' that frequently accompanies snow. Often associated with that, just as in Horace, are the *flumina* 'rivers', which have their sources in the mountains, and which frequently also figure in descriptions of the mountain in classical Latin.

Were an ancient prepared to brave the cold, or find a mountain without the typical snow-capped peak and ascend it, he might do so to gain a view. This occurs less frequently for the purposes of appreciating the scene than to make a military reconnoitre. An ascent might also occasionally be undertaken in the name of research or curiosity, but most ancients climbed a mountain out of the necessity of travel. Travel was often a necessity of war and it is for this reason that a large number of the texts that contain classical reactions to the mountain environment come from travel accounts or from works concerning military exploits.

Another important aspect of high ranges and peaks in classical literature is their association with divinity. Soracte was no exception to the mountains' connection with the Gods. In the *Aeneid,* Vergil makes Apollo the custodian of the mountain: *Summe deum, sancti custos Soractis Apollo.*[9] The connection between the gods and the mountain was a cornerstone of classical literature and this theme will be accordingly explored in the sub-section iii) *The Mountain and the Gods* below. Through this association with the Gods and their mythological past, the mountain in classical literature is frequently also represented as ancient, timeworn or longstanding.[10] This aspect of the mountain's image also transfers over to the human sphere too when the mountain is represented as a primal human domain, another characteristic that is surveyed later on in this chapter.

Returning to Horace's Soracte, we can pick out another part of the classical image of the mountain in the first line: that of stability. Soracte *stat*. Commenters have—rightly—made something of Horace's choice of *stare* in relation to the

[9] Verg. *Aen.,* XI.785. For more on Soracte and the Gods see Plin. *NH.* VII.2 cited above, where the priests known as the *Hirpi* walk over hot coals in honour of Apollo, as well as Strab., *Geog.* V.2.9. For the text of Stabo's *Geography* I follow here the text of S. Radt, *Strabons Geographika mit Übersetzung und Kommentar* (Göttingen, 2002-2010).
[10] R. Buxton, "Imaginary Greek Mountains," *JHS* 112 (1992): 9.

mountain. It has been said, for example, to bring out the 'fixity and strength' of the mountain, or to represent 'prominence and permanence'.[11] This idea is closely bound to that of size. The mountain's mass—as well as its altitude—create the impression of immovability and stability that we still associate with it today. This is a straightforward idea to grasp, just as the related role of the mountain as a border or boundary. From a geographical point of view it is easy to see why for the Romans, separated from the rest of Europe by the literally massive Alps, and the Greeks, in a similar position with the Balkan range, considered the mountains a natural border. Indeed, this idea still persists to a large extent today.

The role of the mountain as a border overlaps with the idea of demarcating the outside, the fringe or the 'Other'. The mountains present a more difficult terrain to move through, cultivate or inhabit and so frequently represent the area outside the civilised towns or cities in classical literature. This is especially true when the mountains are—like Soracte—wooded, for the forest came to represent a quintessential *locus inamoenus* for the Romans.[12] The etymology of the modern Romance words for 'wild' or 'uncultivated' offers an interesting perspective on the symbolism of the forest in the Roman mind: French *sauvage;* Spanish *salvaje;* Italian *selvaggio;* Portuguese *selvagem*, for example, have all acquired the meaning 'wild' and 'untamed', as well as the sense of the English 'savage' with the force of 'brutal', 'cruel' or 'fierce'. They are derived from the Latin *silvaticus,* an adjective from *silva* meaning 'of or connected to the forest'. Even in classical Latin literature the related word *silvestris* carried more weight than simply 'sylvan' and could convey a meaning similar to that of the later Romance words.[13] The mountain, in reality as well as in classical literature, is commonly wooded and the forested mountain could be considered a category of its own: *situs . . . silvestris et montanus.*[14] The adjective from *mons*, though lacking the history and modern day success of its partner *silvestris,* also acquired, through frequent association, some semantic weight outside of its straightforward sense. *Montanus,* for example, could be combined with *asper* in

[11] R. G. M. Nisbet and M. Hubbard, *A Commentary on Horace: Odes, Book I* (Oxford, 1970): 118; Vessey, "From Mountain to Lovers' Tryst: Horace's Soracte Ode," 28.
[12] D. Garrison, "The 'Locus Inamoenus': Another Part of the Forest," *Arion* 2 (1992): 98–114.
[13] See, for example, of plant life: Columella, *Rust.* III.1.1 (*arbores*) *silvestres et ferae*; of animals: Livy XXXVIII.17.15 *nolite existimare beluas tantum recens captas feritatem illam silvestrem primo servare*; of men with the implication of 'wild' Plin. *NH.* VII.11 *regio in qua siluestres vivunt homines*; and of the landscape itself Ov. *Met.* XIII.47 *silvestribus abditus antris*.
[14] Columella*, Rust.*, VII.2.3.

Caesar's *homines asperi et montani* 'rude mountain men' to add the force of 'wild' and 'uncivilised' to the phrase.[15]

The positive side of the mountain's connection to the area outside of civilisation, and to the woods, brings us back to Soracte's *flumina*. The mountains were a place to find and gather raw materials in the classical world. They stored water in the form of snow and ice, which in turn gave birth to the rivers. They were also, as we have remarked, frequently covered in forests, whose timber and other natural products kept the ancient housed and warm, as well as mobile.

Another idea related to the mountain in classical literature is contained in the first word of Horace's Soracte Ode: *vides*. The mountain is an object almost always identified by being seen. This visual quality of the mountain's representation in literature explains in part this study's general focus on the aesthetic appreciation of the mountain. It certainly clarifies the emphasis in the material that follows on the way that the classical literary tradition represents the mountain aesthetically.

The aim of gathering this material here is not to compile a comprehensive collection of all the references to the mountain in classical literature. This would not only be an arduous task, it would also be of little help in attempting to understand what the mountain as an idea represented in classical literature. Rather, the intention here is to sketch the picture of the mountain that classical literature draws so that it might be used as a starting point for the mentality shift which took place in later Neo-Latin literature. The image of the mountain in classical literature, like the later development in Renaissance and Early Modern Latin, is multi-faceted, complex and sometimes contradictory. In keeping with the approach throughout this study as a whole, no attempt has been made to 'smoothen out' this intricate image. Instead the chapter is structured to allow the associations and connections that make up the idea of the mountain in classical literature to be understood as they functioned in the literature itself. Simply put, the approach attempts to make sense of the mountain mentality in classical literature by grouping ideas associated with the mountain under headings where complicated, knotty and even conflicting concepts can be treated without being disguised or written away.

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[15] Caes. *BCiv.,* I.57.3. See also Livy IX.13.7 *ipsi montani atque agrestes*, for example, as well as Juv. VI.5-6 where *silvestris* and *montanus* combine to complete the image of primitive humanity: *silvestrem montana torum cum sterneret uxor/ frondibus*.

This associative approach extends to the inclusion of classical Greek literature. The debt of Latin literature to its Greek forebears is well-known and needs no explanation here. As we began with Horace perhaps his famous tag will suffice to sum up the relationship: *Graecia capta ferum victorem cepit, et artes/ intulit agresti Latio*.[16] What does perhaps need some clarification is the use of the Greek language as evidence in a literary background of attitudes towards the mountain in Latin. As far as literary figures and ideas are concerned, the classical tradition—in both Greek and Latin—must be considered together. In fact it is desirable to do so. Many, most, if not all of the Latin passages treated in this chapter are literary in nature and the attitudes of their authors towards the mountain are therefore the inheritance of Greek attitudes. Moreover, the majority of the Neo-Latin authors whose works are at the centre of this study were contributing to the Humanist project which sought to re-establish and build upon classical knowledge. This knowledge existed in both Greek and Latin texts: literature in both languages made up the classical tradition as a whole. As such, Latin and Greek authors are commonly referenced and cited side by side in the Renaissance and Early Modern authors presented throughout this study. Accordingly the classical literary tradition will be considered here as one, albeit with a focus on Latin as befits the Neo-Latin topic.

ii) Josias Simler's *De Alpibus Commentarius* (1574)

In order to get a sense of how the image of the mountain presented in classical literature was received by Neo-Latin writers, I will use Swiss author Josias Simler's 1574 *De Alpibus Commentarius* as a guide throughout this chapter. [17] Simler's

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[16] Hor., *Epist*. II.1.156.

[17] Simler's *De Alpibus Commentarius* was first published in 1574 in Zurich. It is the second tract of two in the volume. The first is a description of the Valais (Wallis) entitled *Vallesiae Descriptio Libri duo*. After a general preface, the *Vallesiae Descriptio* runs from page one to sixty-five. It is followed by the *De Alpibus Commentarius* which has its own three page preface before running from page 66-124. The numbering of pages cited will follow that of the original numbering of the entire volume, i.e.: the first page of the *De Alpibus Commentarius* is 65. The volume finishes with an appendix of three smaller works*: Martyrium beati Mauritii et sociorum eius ex V. C. descriptum; Elogium Matthei Cardinalis Sedunensis ex Paulo Iovio; De thermis et fontibus medicatis Vallesianorum liber Gasparo Callino Pharmacopaeo Sedunensi auctore*. This three part lay-out is also the format for the subsequent editions of the book. It was printed again at Leiden in 1633 by Elzevier and finally in 1735 back in Zürich by Conrad Orelli. The authoritative modern edition of the *De Alpibus Commentarius* is: W. A. B. Coolidge, *Josias Simler et les origines de l'Alpinisme jusqu'en 1600* (Geneva, 1904). Coolidge's edition is

Commentarius is an appropriate work to use: it is the very first work dedicated solely to systematic description of the Alps, the mountain range most often to be found at the centre of the Neo-Latin mountain story narrated in the following chapters. Moreover, Simler draws frequently and explicitly from classical sources throughout the work. Bound to his bureau by severe attacks of gout for long periods of his life, Simler's own relationship with his homeland's mountains was less practical than literary. As such, the project of the *De Alpibus Commentarius* was to gather all that was known about the mountain range up to Simler's time. As a man with deep learning in the classical tradition, it is not surprising to find that knowledge drawn from classical works dominates the text of Simler's *Commentarius.*[18]

While Simler's work is based firmly on the classical tradition, it is not restricted by these roots to a one-dimensional view of the mountain landscape. Simler's mountain attitude is complex and multifaceted—another reason that it is a particularly useful text to use as a foil for gauging the effect of the mountain's classical heritage on Neo-Latin authors. Moreover, the *De Alpibus Commentarius* is a text of its time, and ideas about the mountain appear within it that would never have occurred to Roman or a Greek to write. An example arises in the very first lines of the work's preface:

> *Cum aeque in universis terrarum tractibus campi et montes occurrant, nescio tamen quo pacto horum stupenda altitudo magis animos nostros percellit et in admirationem sui rapit, quam illorum latissime diffusa planities.*[19]

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at once a monument of alpine scholarship and a peculiar project. The American born historian, Anglican priest and alpinist produced a French translation of Simler's *Commentarius* accompanied by a biography of Simler, an extensive introduction to the text, a commentary and an appendix of 200 pages containing many of the most important accounts of mountain climbs in western history before 1600. The pieces in the appendix also have their own individual commentaries. Coolidge prints the text of the 1574 edition on the basis that the two later editions are reproductions of the first. Out of convenience, I have cited the text as paginated in Coolidge's edition with a copy of the 1574 edition at hand.

[18] Simler was born in Zürich in 1530 and died in 1576. His father was a cleric and close friends with reformer Heinrich Bullinger (1504-1575) who was also godfather to Josias. Raised in this learned and literary milieu, he was educated at the universities of Basel and Strasbourg before returning to Zürich in 1549. He first suffered from gout in 1559, one year before he was named Professor of theology at the new Carolinum School in Zürich. Simler's biography was first written by his friend and colleague Johann Wilhelm Stucki and printed in 1577 at Zürich under the title *Vita clarissimi viri D. Josias Simleri Tigurini . . .* The 20-page work is in the style of a eulogy. Coolidge's biography of Simler (*Josias Simler et les origines de l'Alpinisme jusqu'en 1600:* cxlvii-clxiii) is based on the *ADB* entry for Simler by G. v. Wyß and tells a richer story of the man's life than the 2010 *NDB* article by H. U. Bächtold, without differing on any substantive issues.

[19] Simler, *De Alpibus Commentarius*, 28. This sentiment was expressed in almost the same words in Conrad Gesner's *Epistola de Montium Admiratione* (Zürich 1541): *Nescio quo pacto altitudine stupenda*

> Although mountains and plains appear in all parts of the world, the astounding height of the mountains—I'm not sure how—strikes our spirits and draws us into wondering at them more than at the vast, expansive plains.

Simler's work is, then, a part of the history of the mountain mentality change itself. This ought to be borne in mind even when using the *De Alpibus Commentarius* to establish the ancient image of the mountain as a foundation on which to base our later discussion of the attitude shift towards the mountain.

iii) The Mountain and the Gods

The opening lines of Hesiod's *Theogony* paint a familiar image of the association between the Gods and the mountain:

> μουσάων Ἑλικωνιάδων ἀρχώμεθ᾽ ἀείδειν,
> αἵθ᾽ Ἑλικῶνος ἔχουσιν ὄρος μέγα τε ζάθεόν τε
> καί τε περὶ κρήνην ἰοειδέα πόσσ᾽ ἁπαλοῖσιν
> ὀρχεῦνται καὶ βωμὸν ἐρισθενέος Κρονίωνος.
> καί τε λοεσσάμεναι τέρενα χρόα Περμησσοῖο
> ἢ Ἵππου κρήνης ἢ Ὀλμειοῦ ζαθέοιο
> ἀκροτάτῳ Ἑλικῶνι χοροὺς ἐνεποιήσαντο
> καλούς, ἱμερόεντας: ἐπερρώσαντο δὲ ποσσίν.[20]
>
> From the Heliconian Muses let us begin to sing,
> Who have the great and holy mount of Helicon,
> And dance on light feet around the blue spring
> And the altar of Cronos' almighty son.
> When they have washed their tender bodies in Permessus
> Or in the Horse's Spring or Olmeius,

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mens percellitur, rapiturque in summi illius architecti considerationem. Gesner, as we will see in the beginning of the next chapter (ii) Prospectus—*Gesner Frames the Mountain*), was at the centre of a group of men working in Switzerland in the middle of the sixteenth century who wrote about the mountains and expressed progressive ideas about the alpine landscape in their texts. Simler's use of Gesner's phrasing in the opening lines of his *De Alpibus Commentarius* is a good indication of his own involvement with these forward-looking ideas about the mountain.

[20] Hes., *Th.* 1-8. Helicon is also the location of Callimachus' encounter with the Muses—explicitly following Hesiod—in Fr. 2d after A. Harder *Callimachus Aetia Vol. I: Introduction, Text and Translation* (Oxford, 2012) (=1, p.11 Pfeiffer). Minerva, for example, visits the Muses on Helicon in Ov. *Met.,* VII.250-293. Lucretius' poetical mountain is also Helicon: Lucr. I.921, which he knows as the home of the Muses: Lucr. III.132. And Gallus, for example, is led up the mountain by one of the Muses in Verg. *Ecl.*, VI.64-5.

> Make their fair, lovely dances upon highest Helicon
> And move with vigorous feet.

The fact that Helicon here is ἀκροτάτος 'very high' underlines the direct relationship between the mountains and their height in classical literature. It also suggests that the locating of divinity upon the mountains in the classical tradition was due to their altitude. The Gods' home in classical literature was, after all, Mount Olympus, Greece's highest mountain.[21]

The Gods have another similar connection to the mountain: many were born or raised on their slopes. A few lines further into the *Theogony*, Hesiod tells the story of the Muses' birth on Olympus:

> ἣ δ᾽ ἔτεκ᾽ ἐννέα κούρας ὁμόφρονας, ᾗσιν ἀοιδὴ
> μέμβλεται ἐν στήθεσσιν, ἀκηδέα θυμὸν ἐχούσαις,
> τυτθὸν ἀπ᾽ ἀκροτάτης κορυφῆς νιφόεντος Ὀλύμπου.[22]
>
> She (Mnemosyne) then gave birth to nine daughter of the same ilk,
> Who have song in their breasts and spirits free from care,
> A little way down from the snow-capped peak of Olympus.

Perhaps because of their height, inaccessibility or connection with inclement and impressive weather phenomena, the mountain was commonly considered a sacred place in classical literature.[23] We have already established that Mount Soracte was guarded by Apollo and that the Muses, born on the slopes of Olympus, were said to dwell on Helicon. But the sheer extent of the connection between the Gods and the mountain can perhaps best be demonstrated by the overwhelming

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[21] Hom. *Il.,* I.221-2: ἣ δ᾽ Οὔλυμπον δὲ βεβήκει/ δώματ᾽ ἐς αἰγιόχοιο Διὸς μετὰ δαίμονας ἄλλους 'She [Athene] went to Olympus, the house of aegis-bearing Zeus with the other Gods.' *Cf.* also *e.g.*: Hom. *Il.*, II.30; II.48; II.484; V.398; Verg. *Aen.*, VI.268; XII.791.

[22] Hes. *Th*. 60-2. Zeus, for example, was raised on Mount Ida: Hom. *Od.*, XIX.172; Plat., *Laws*, I.1; Strab. *Geog.* X. p. 730 Cic. *N.D.*,III. 21. The mountain was therefore sacred to him: see citation below Hom. *Il.,* VIII.46-9.

[23] Martin West highlights the fundamental nature of the holiness attached to specific natural places in: M. L. West, *The East Face of Helicon : West Asiatic Elements in Greek Poetry and Myth: West Asiatic Elements in Greek Poetry and Myth* (Oxford, 1997), 33: "The oldest holy places are those fashioned by nature: trees and groves, springs, grottoes, rocks and peaks." He gives an overview of the role of mountaintop or hillside sacred places in the overlapping cultures of the Aegean and the Orient on p. 36. He demonstrates the connection between the Greek Pantheon's home on Mt. Olympus with Canaanite tradition on p. 112.

number of references to altars of the Gods on the mountains spread throughout classical literature. Zeus had an altar on Mount Ida:

> Ἴδην δ᾽ ἵκανεν πολυπίδακα μητέρα θηρῶν
> Γάργαρον, ἔνθά τέ οἱ τέμενος βωμός τε θυήεις.
> ἔνθ᾽ ἵππους ἔστησε πατὴρ ἀνδρῶν τε θεῶν τε
> λύσας ἐξ ὀχέων, κατὰ δ᾽ ἠέρα πουλὺν ἔχευεν.[24]
>
> (Zeus) came to Ida of the many fountains, mother of wild beasts
> And to Gargaros, where sacred space and smoking altar is.
> There the father of men and Gods stayed his horses,
> Loosed from the carriage, and he poured mist over them.

This is appropriate given that it was the place of the God's upbringing after he was rescued from his father's jaws by Rhea's scheming, which replaced the young Zeus with a stone.[25] But he also had an altar on Mount Athos in Macedonia, on the mountain Atabyrium on Rhodes and on Mount Oeta in the Phocis region. He carried the epithets 'Kasios', Zeus of Mount Kasios in Syria and 'Ithomatas', Zeus of Mount Ithomi in Messenia.[26] So the list goes on.[27] Indeed, in his authoritative study on Zeus, A. B. Cook references close to 100 of the God's mountain cults.[28]

Other Gods, too, had close connections to the mountains and altars upon them. Apollo's connection to Soracte is just one example.[29] He had another sanctuary on Olympus, Artemis had one on the aptly named Mount Artemisium, and the sun God Helios on Taletum, one of Taygetus' peaks in the Peloponnese.[30] One of the more accomplished expressions of this association of the mountains

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[24] Hom. *Il.,* VIII.46-9. See also n. 22 above.
[25] Verg. *Aen.,* VII.139; Hes. *Th.,* 481-4.
[26] For Zeus' altar on Mount Athos see Aesch. *Ag.* 285. For Atabyrium: Pind. *Ol.,* VII.159-61. For Oeta: Soph. *Trach*. 1191-2. For Zeus Kasios (Casius) see Plin. *NH.,* IV.52; Suet. *Nero*, 22. (For the text of Suetonius' works in this chapter I have followed H. Ailloud's Budé edition, 1989). For Zeus Ithomatas see Paus. IV.27.6; IV.33.1. (I have followed Rocha-Pereira's Teubner edition (1973-81) of Pausanius.)
[27] Hyde, W. W., "The Ancient Appreciation of Mountain Scenery," 74.
[28] A. B. Cook, *Zeus: A Study in Ancient Religion (*Part 1*)* (Cambridge, 1914), 165. Cook's monumental work has a sub-chapter dedicated to the mountain cults of Zeus: *Zeus: A Study in Ancient Religion,* vol. I, §5: 117-186, as well as an additional appendix dedicated to the topic: *Zeus: A Study in Ancient Religion* vol. II.2, Appendix B: 868-989.
[29] See n. 9 above.
[30] For Apollo's sanctuary on Olympus see Plut. *Aem.,* 15. (For the works of Plutarch I have followed the texts of the Teubner editions). For Artemis on Mount Artemisium see Paus. II.25.3; for Helios on Taletum see Paus. III.20.4.

with divinity can be found at the opening of the Homeric Hymn to Pan where the Arcadian God's usual mountain haunts are described:

> [Πάν]. . . ὃς πάντα λόφον νιφόεντα λέλογχε
> καὶ κορυφὰς ὀρέων καὶ πετρήεντα κέλευθα.
> φοιτᾷ δ᾽ ἔνθα καὶ ἔνθα διὰ ῥωπήια πυκνά,
> ἄλλοτε μὲν ῥείθροισιν ἐφελκόμενος μαλακοῖσιν,
> ἄλλοτε δ᾽ αὖ πέτρῃσιν ἐν ἠλιβάτοισι διοιχνεῖ,
> ἀκροτάτην κορυφὴν μηλοσκόπον εἰσαναβαίνων.
> πολλάκι δ᾽ ἀργινόεντα διέδραμεν οὔρεα μακρά,
> πολλάκι δ᾽ ἐν κνημοῖσι διήλασε θῆρας ἐναίρων,
> ὀξέα δερκόμενος.[31]
>
> [Pan]. . . who has every snowy peak and
> the mountain tops and the rocky outcrops for his own.
> He goes back and forth, here and there, through dense thickets,
> Now drawn by the gentle streams,
> Now again going through the steep crags
> Ascending the topmost peaks to look down on the sheep.
> Often he runs through the gleaming high mountains,
> Often he speeds across ridges slaying beasts as he goes,
> Keeping a sharp lookout.

In this passage we find many of the same themes touched on in our opening lines by Horace. One idea that stands out—through repetition of words for 'shiny' or 'gleaming' νιφόεντα, ἀργινόεντα—is the mountain's connection to the weather, the snow and cold in particular. This association is often expressed through the Gods in their roles as weather divinities. Of Zeus' numerous sanctuaries on the mountains, for example, a considerable proportion is dedicated to Zeus Ombrios, Zeus the God of rain.[32] And Zeus in his more primitive guise as Astrapios 'of lightening' and Brontios 'of thunder' is commonly positioned upon the mountain:

> . . . ὡς δ᾽ ὅτ᾽ ἀφ᾽ ὑψηλῆς κορυφῆς ὄρεος μεγάλοιο
> κινήσῃ πυκινὴν νεφέλην στεροπηγερέτα Ζεύς,
> ἔκ τ᾽ ἔφανεν πᾶσαι σκοπιαὶ καὶ πρώονες ἄκροι
> καὶ νάπαι, οὐρανόθεν δ᾽ ἄρ᾽ ὑπερράγη ἄσπετος αἰθήρ.

[31] *Hymn. Hom. Pan.* 7-14.
[32] M. K. Langdon, "A Sanctuary of Zeus on Mount Hymettos," *Hesp. Supp.* 16 (1976): 79-81.

> . . . Just as when, from the high peak of a great mountain,
> Zeus, gatherer of lightening, has moved away the thick cloud,
> And from it appear all the summits and high points,
> And the glades and out of heaven the thick air is broken open.[33]

This connection to the more fierce elements of weather frequently gave the mountain a fearful aspect.[34] And protection from these very elements; the vertiginous and inaccessible heights as well as from the lashing wind, snow and rain was also a reason to associate the mountain with divinity. It was Heracles who first braved the Alpine passes in classical mythology:

> *. . . (Hannibal) ad Alpes postquam venit, quae Italiam ab Gallia seiungunt, quas nemo umquam cum exercitu ante eum praeter Herculem Graium transierat (quo facto is hodie saltus Graius appellatur).*[35]

> . . . (Hannibal) then came to the Alps, which separate France from Italy and which no-one had crossed before him, except Hercules the Greek (for which reason the pass is called the *Graius*).

For his tenth labour, the hero was required to retrieve the cattle of Geryon from Erytheia, an island of the Hesperides. Having taken the cattle from the three-bodied, or three-headed, Geryon, killing his dog the two-headed Orthrus, as well as his herdsman Eurytion, Heracles must drive the cattle back to Eurystheus. His route goes back over the Alps and he faces the opposition of the Ligurians, the ancient Alpine people, on the Crau plain near Marseille as well as the opposition of the cattle themselves who repeatedly try to escape.[36] In versions of the myth that historicise the story to explain the increasing involvement of the classical cultures with routes, for example, to and from Marseille, and the Alpine space in general, Heracles is converted into a civilising figure who established passes and tamed the hostile hordes perched on the frozen mountainsides:

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[33] Hom. *Il.,* XVI.297-300. For Zeus *Brontios* and *Astrapios* see respectively Cook, *Zeus: A Study in Ancient Religion*, 833-839; 806-816.

[34] *E.g.*: Sil. *Pun*., III.487-495. Simler has a special place in his work for Silius' description of the Alps in his *Punica*: he dedicates a chapter (III) to commenting on the ancient author's passage in *De Alpibus Commentarius,* 72-76. I will return to Silius' image of the Alps and Simler's commentary below under the sub-heading vii) *The Horror of the Mountain*.

[35] Nep. *Hann*. II. The text follows that of the 1977 Teubner edition by P. K. Marshall.

[36] The fullest account of the tenth labour is in Apollod. II.5.10. For Strabo's description of the "Λιθῶδες" Crau plain and its connection to Heracles' journey see: IV.1.7.

> ὁ δ᾽ Ἡρακλῆς τὴν ἐκ τῆς Κελτικῆς πορείαν ἐπὶ τὴν Ἰταλίαν ποιούμενος, καὶ διεξιὼν τὴν ὀρεινὴν τὴν κατὰ τὰς Ἄλπεις, ὡδοποίησε τὴν τραχύτητα τῆς ὁδοῦ καὶ τὸ δύσβατον, ὥστε δύνασθαι στρατοπέδοις καὶ ταῖς τῶν ὑποζυγίων ἀποσκευαῖς βάσιμον εἶναι. τῶν δὲ τὴν ὀρεινὴν ταύτην κατοικούντων βαρβάρων εἰωθότων τὰ διεξιόντα τῶν στρατοπέδων περικόπτειν καὶ λῃστεύειν ἐν ταῖς δυσχωρίαις, χειρωσάμενος ἅπαντας καὶ τοὺς ἡγεμόνας τῆς παρανομίας ἀνελὼν ἐποίησεν ἀσφαλῆ τοῖς μεταγενεστέροις τὴν ὁδοιπορίαν.[37]
>
> Heracles then made his way from the Celtic lands to Italy, and as he crossed the mountain pass through the Alps he made a road out of the route, which used to be rough and almost impassable, so that now armies and baggage-trains can cross it. The natives who lived in this mountain area had been accustomed to slaughter and to rob the armies passing through as they came to the difficult portions of pass, but he subdued them all, killed the leaders of that type of banditry, and made the journey safe for posterity.

Heracles' role as explorer, trailblazer and conqueror earned him numerous altars on the mountain passes:

> *Alpibus aeriis, ubi Graio numine pulsae*
> *descendunt rupes et se patiuntur adiri,*
> *est locus Herculeis aris sacer: hunc nive dura*
> *claudit hiems canoque ad sidera vertice tollit.*[38]
>
> In the high Alps, where the cliffs trodden by a Greek god
> Descend and allow men to approach them,
> There is a place sacred to the altars of Hercules: the winter closes it off
> With frozen snow, and brings it up to the sky on its white peak.

The extent of Heracles' conspicuousness in the Alps and his role as guide and protector of travellers through them is helpfully and clearly demonstrated in Jourdain-Annquin's *Atlas culturel des Alpes Occidentales* where her map collects and locates references, statues, temples, towns and toponyms connected to the Greek

[37] Diod. Sic., IV.19. For the text of Diodorus Siculus in what follows I have used the Teubner edition of Vogel/ Fischer (1888-1906). For the myth of Heracles and its merging with history see: C. Jourdain-Annequin, *Quand Grecs et Romains découvraient les Alpes: les Alpes voisines du ciel*, 23–28.
[38] Petron. *Sat.,* 122. I have used the text of K. Müller (Munich, 1995)[5].

hero. Of statues, altars and inscriptions dedicated to Heracles alone there are 43 indicated on the map.[39]

Heracles was not the only god, however, with a tutelary role to play in the Alps.[40] The major passes of the Western Alps were also home to various other Gods. A sanctuary of Jupiter has been found on the Great St. Bernard Pass as well as on the Little St. Bernard. There is another on the Col de Mongenèvre.[41]

The mountains, then, were associated with the Gods on account of their height; they were literally close to heaven. They were birthplaces of the Gods, their dwelling places, and haunts, they were also places of extreme weather conditions, with which the Gods were frequently connected. The Gods played a protective role, too, on the cold and treacherous peaks. But the relationship of the Gods with the mountain was not just amount to a list of causes; it also had an effect. It enhanced the mountain's aspect of wildness, magnitude and immensity. This is largely the effect, for example, of the picture painted of the mountain scenery in the *Prometheus Bound.* In the opening lines of the play, Kratos describes the mountainous place where Prometheus will be chained as a punishment:

> Χθονὸς μὲν ἐς τηλουρὸν ἥκομεν πέδον,
> Σκύθην ἐς οἶμον, ἄβατον εἰς ἐρημίαν.
> Ἥφαιστε, σοὶ δὲ χρὴ μέλειν ἐπιστολὰς
> ἅς σοι πατὴρ ἐφεῖτο, τόνδε πρὸς πέτραις
> ὑψηλοκρήμνοις τὸν λεωργὸν ὀχμάσαι
> ἀδαμαντίνων δεσμῶν ἐν ἀρρήκτοις πέδαις.[42]
>
> We come to the end of the earth,
> To Scythia, an untrodden waste.
> And now, Hephaestus, you must
> Observe the mandates, which the Father has given you:
> Clamp this criminal on the high craggy rocks
> In chains of binding adamant that cannot be broken.

[39] C. Jourdain-Annequin et al., *Atlas Culturel Des Alpes Occidentales* (Paris, 2004), 99.
[40] Jourdain-Annequin, *Quand Grecs et Romains découvraient les Alpes*, 274.
[41] Jourdain-Annequin et al., *Atlas Culturel Des Alpes Occidentales*, 211.
[42] [Aesch], *PV.*, 1-6.

Elsewhere in the piece, the mountains are given their more common descriptors; Prometheus refers to the Caucasus as ὀρῶν ὕψιστον, 'highest of mountains' with ἀστρογείτονας κορυφὰς, 'peaks that neighbour the stars'.[43] Later, Hermes threatens:

> . . . πρῶτα μὲν γὰρ ὀκρίδα
> φάραγγα βροντῇ καὶ κεραυνίᾳ φλογὶ
> πατὴρ σπαράξει τήνδε, καὶ κρύψει δέμας
> τὸ σόν, πετραία δ᾽ ἀγκάλη σε βαστάσει[44]
>
> . . . first, the Father will break this jagged cliff
> with thunder and lightning bolts,
> And will cover your body, while the rock
> Holds you tight in its embrace.

But the sheer scale and wilderness of the mountain setting can be appreciated most vividly at the close of the play when Prometheus is pictured chained down in the rocky landscape and is subjected to fierce intimidation by Zeus through the medium of the weather:

> χθὼν σεσάλευται:
> βρυχία δ᾽ ἠχὼ παραμυκᾶται
> βροντῆς, ἕλικες δ᾽ ἐκλάμπουσι
> στεροπῆς ζάπυροι, στρόμβοι δὲ κόνιν
> εἰλίσσουσι: σκιρτᾷ δ᾽ ἀνέμων
> πνεύματα πάντων εἰς ἄλληλα
> στάσιν ἀντίπνουν ἀποδεικνύμενα:
> ξυντετάρακται δ᾽ αἰθὴρ πόντῳ.
>
> The earth sways,
> The echoing thunderclap from the deep
> Booms past me;
> The fire wreathed lightning bolts flash,
> And whirlwinds throw up the swirling dust;
> The gusts of all the winds surge up
> And make a stand against each other;
> The sky is mingled with the sea.

[43] [Aesch], *PV.*, 719-722.
[44] [Aesch], *PV.*, 1016-19.

This type of raw, grand and mountainous scenery suits the atmosphere of the play in setting the tragic scene for Prometheus' punishment. The fact that the scenery is occupied mainly by the Gods in the play makes the setting even more removed, imposing and impressive. The connection to the wilder weather conditions controlled by Zeus is similarly well illustrated in the final scene of the play.

For Simler, too, the mountains were a place associated with the Gods. This association he recognised as an inheritance from ancient writers and myths. He attributes the connection between the Gods and the mountains to a desire among the ancients to symbolise the forces they saw in nature. Simler's words serve as a useful summary of the themes treated in this subsection as well as the best expression of his own views on the topic. For this reason, I quote here from him at length:

> *Inter gentes vero poetae qui naturae contemplationem fabularum involucris tectam posteris tradiderunt, multos monticolas Deos finxere, Faunos, Satyros, Pana, Oreades aliaque nympharum genera complurima: neque tantum hos quasi minorum gentium deos, sed illos quoque maiores montes incolere prodierunt. Iupiter enim Olympius cognominatur, et omnium altissimorum montium vertices illi sacri sunt: biceps Parnassus, et Helicon, et Cytheron, Pierus, Nisa, aliique montes Apollini et Musis Bacchoque ab iisdem consecrati sunt: Mercurius Atlantis proles est. Voluerunt autem his fabulis haud dubie naturae opera et vires quae eximiae in montibus cernuntur, adumbrare.*[45]
>
> The poets among the heathens who transmitted their idea of nature hidden under the coverings of myths, they imagined many mountain-dwelling Gods: Fauns, Satyrs, Pan, the Oreades and very many other types of Nymph. And it is not only these Gods of the lower class—as it were—that they presented, but also those grander Gods inhabiting the mountains. For Jupiter has the cognomen Olympius, and the summits of all the highest mountains are sacred to him: two-peaked Parnassus, Helicon, Cythaeron, Pierus, Nisa and other mountains apart from these are dedicated to Apollo, the Muses and Bacchus. Mercury is the offspring of Atlas. Without doubt they wanted to represent in these myths the works and forces of nature which are seen distinctly in the mountains.

[45] Simler, *De Alpibus Commentarius*, 65. This passage comes from the preface to Simler's work. In the second sentence of the same preface Simler underlines the association between the Gods and the mountain that he recognised in older cultures. This connection extended also to the early men of the Bible, for which see the subsection α. iii) *Mountains and the Gods* in the *The Mountains and the Bible* below.

iv) The Wild Mountain Outside

If the *Prometheus Bound* takes place almost entirely in the divine sphere, other texts that bridge the divide between humanity and the Gods, also use the mountain as a setting signalling the wild, frightening or the sphere of life outside of the norm. One of the most famous examples of this part of the mountain image in classical literature is that of Cithaeron. The mountain range divides the more northern Boeotia from Attica in the south. It is the mythological setting for the tragic death of Actaeon who ἐν τῷ Κιθαιρῶνι κατεβρώθη ὑπὸ τῶν ἰδίων κυνῶν 'was devoured by his own dogs on Cithaeron.'[46] In his recounting of the story Ovid sets the dogs' final, frenzied chase after their master-turned-stag over the treacherous terrain of the mountain:

> *. . .Ea turba cupidine praedae*
> *per rupes scopulosque adituque carentia saxa,*
> *quaque est difficilis quaque est via nulla, sequuntur.*[47]
>
> The pack, eager for their prey, give chase
> Over the slopes, cliffs, and rocks which lack paths,
> Where the route is steep, where the route is none.

It is also the place of baby Oedipus' exposure, as revealed by the messenger in Sophocles' *Oedipus Rex.*[48] But Cithaeron is perhaps at its most wild and threatening when its wooded slopes become the scene of one of the more gruesome events in Greek tragedy. Euripides' *Bacchae* sets the mountain in polar contrast to the *polis*. It is a place of reversal; the women of the town under the influence of Dionysus, recently arrived in Thebes, become hunters. Men become women, as Pentheus, King of Thebes, dresses as a woman and witnesses the mysteries of Bacchus on the mountain. The first appearance of the mountain in the text establishes the wild and unpredictable setting that it will come to signify throughout the play. Here Dionysus decribes his effect on the women of Thebes:

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[46] Apollod. III.4.4. The text of the *Library* used here follows that of the *Scrittori Greci e Latini* edition by Scarpi and Ciani (1997)[3].
[47] Ov. *Met.,* III. 225-7.
[48] Soph. *OT.* 1026: εὑρὼν ναπαίαις ἐν Κιθαιρῶνος πτυχαῖς.

τοιγάρ νιν αὐτὰς ἐκ δόμων ᾠστρησ᾽ ἐγὼ
μανίαις, ὄρος δ᾽ οἰκοῦσι παράκοποι φρενῶν:
σκευήν τ᾽ ἔχειν ἠνάγκασ᾽ ὀργίων ἐμῶν,
καὶ πᾶν τὸ θῆλυ σπέρμα Καδμείων, ὅσαι
γυναῖκες ἦσαν, ἐξέμηνα δωμάτων:
ὁμοῦ δὲ Κάδμου παισὶν ἀναμεμειγμέναι
χλωραῖς ὑπ᾽ ἐλάταις ἀνορόφοις ἧνται πέτραις.[49]

Therefore I have driven them from their houses in frenzy
They live on the mountain, their senses deranged;
And I have made them wear the robes of my mysteries.
All of Thebes' female children, as many as are women,
I have driven wild from home.
They are now on roofless rocks in intercourse
With the daughters of Kadmos, beneath green pines.

Dionysus intends to punish the mortal side of his family for refusing to believe that Zeus is his father. His mother, Semele, was killed by Hera who had become jealous of her husband's infidelity. After Semele's death her sisters claimed that in fact Dionysus was the son of a mortal father and that the affair with Zeus was a story to conceal the embarrassing mistake (lines 1-31). Straightaway, the mountain is associated with the women driven wild, ὄρος δ᾽ οἰκοῦσι παράκοποι φρενῶν, and is set in opposition to the safe, civilised domain of the πόλις, ἐκ δόμων. The idea is then repeated and intensified: the women are driven, maddened, from their houses ἐξέμηνα δωμάτων and now instead live among the rocks, which are, emphasising further the opposition between the ὄρος and πόλις, 'without rooves', ἀνορόφοις.

The consistent connection of the mountain with the forest might also be underlined here. The χλωραὶ . . . ἐλάται, green fir trees, are another part of the mountain's representation of the space outside of the norm. Cithaeron is similarly depicted with the snow and ice frequently connected to the mountain in the words of a messenger who arrives in Thebes to report on the abnormal and alarming behaviour of the bacchants on its slopes:

[49] Eur. *Ba.,* 32-38. The phrase ὅσαι γυναῖκες ἦσαν is tautologous with the comma placed after Καδμείων. In this I have followed Dodds' Oxford text of 1960. In his commentary, Dodds considers the alternative interpretations of these phrases to avoid tautology but he nonetheless prints the text as above.

Ἄγγελος: Πενθεῦ κρατύνων τῆσδε Θηβαίας χθονός,
ἥκω Κιθαιρῶν᾽ ἐκλιπών, ἵν᾽ οὔποτε
λευκῆς χιόνος ἀνεῖσαν εὐαγεῖς βολαί.

Πενθεύς: ἥκεις δὲ ποίαν προστιθεὶς σπουδὴν λόγου;

Ἄγγ.: βάκχας ποτνιάδας εἰσιδών, αἳ τῆσδε γῆς
οἴστροισι λευκὸν κῶλον ἐξηκόντισαν,
ἥκω φράσαι σοὶ καὶ πόλει χρῄζων, ἄναξ,
ὡς δεινὰ δρῶσι θαυμάτων τε κρείσσονα.[50]

Messenger: Pentheus, ruler of this land of Thebes,
I have come from Cithaeron,
Where the pure flakes of white snow never melt.

Pentheus: What important news do you bring?

Mess.: Having seen the holy Bacchae, driven insane,
Dash from this land with their fair feet,
I have come to tell you and the city, lord,
What terrible things they are doing, beyond amazement.

The mountain has now become explicitly a space of δεινὰ, ‘terrible’ or ‘strange’ things, and moreover θαυμάτων τε κρείσσονα ‘ things beyond amazement’. This is proved true at the end of the play when Agave, sister of Semele, mother of King Pentheus and lead bacchic reveller, has returned to Thebes with her spoils from the night of hunting on the mountain. Still unsure as to how she came to be holding the torn remains of her son, she asks Cadmus, her father and head of the house of Thebes:

Ἀγαύη: ποῦ δ᾽ ὤλετ᾽; ἦ κατ᾽ οἶκον; ἢ ποίοις τόποις;

Κάδμος: οὗπερ πρὶν Ἀκτέωνα διέλαχον κύνες.

Ἀγ.: τί δ᾽ ἐς Κιθαιρῶν᾽ ἦλθε δυσδαίμων ὅδε;

Κάδ.: ἐκερτόμει θεὸν σάς τε βακχείας μολών.

Ἀγ.: ἡμεῖς δ᾽ ἐκεῖσε τίνι τρόπῳ κατήραμεν;

[50] Eur. *Ba.,* 660-7.

Κάδ.: ἐμάνητε, πᾶσά τ᾽ ἐξεβακχεύθη πόλις.

Ἀγ.: Διόνυσος ἡμᾶς ὤλεσ᾽, ἄρτι μανθάνω.[51]

Agave: Where did he die? Was it here at home, or in another place?

Kadmos: Where Acteon's dogs once tore him apart.

Ag.: And why did this cursed man go to Cithaeron?

Kad.: He went to ridicule the God and your Bacchic rites.

Ag.: But we, how did we get to that place?

Kad.: The whole city went mad; it was frantic with Bacchus.

Ag.: Dionysus destroyed us- I've just understood it!

The bacchants' assimilation with the city in these lines reflects Dionysus' ruinous power over Thebes revealed throughout the play. Agave is left horrified by the results of the mountain entering the city. The drama opened with Cithaeron characterised as wild and strange—it is the home of the bacchants. The play closes with the mountain being directly associated with things unholy and outside of civilisation. Agave says:

μήτε Κιθαιρὼν ἔμ᾽ ἴδοι μιαρὸς
μήτε Κιθαιρῶν᾽ ὄσσοισιν ἐγώ.[52]

[May I go where] polluted Cithaeron will not see me,
And where I won't see Cithaeron with my eyes.

The mountain is μιαρὸς, 'stained' by the blood of Pentheus and 'polluted' by Agave's crime of infanticide. It is therefore morally 'repulsive' and also 'ugly' to Agave who begs not to see it with her eyes.[53]

Although Cithaeron is the centre of the world outside the city in the *Bacchae*, the maenads—voluntary followers of Dionysus who have followed him from the East—refer to another mountain in the play where they celebrate their cult: Mount

[51] Eur. *Ba.,* 1290-6.
[52] Eur. *Ba.,* 1384-5.
[53] For the senses of μιαρός see LSJ *s.v.*

Tmolus in Lydia (lines 55 and 65). They go on to mention Nysa, Parnassos and Olympus as other possible homes for their God.[54] These smaller examples scattered throughout the piece serve to underline the general association of the mountain with the wild and uncivilized side of life, separate from the city.

v) The Mountain as a Barrier

Connected to the theme of separation is another role that the mountains took on in Classical literature, that of a barrier. Their height, adverse weather conditions and incommodious paths and passes made the mountains a true obstacle in almost all senses. At its most innocuous, the obstructive nature of the mountain could simply hinder commerce or travel.[55] But the mountain also took on wider and deeper significance in its function as a barrier.

The mountain can frequently be found playing the role of a protective wall or barrier in almost all ages of classical literature. Achilles references the idea in the first book of the *Iliad*, when in reply to Agamemnon he explains that the Trojans have done him no harm:

> οὐ γὰρ πώποτ᾽ ἐμὰς βοῦς ἤλασαν οὐδὲ μὲν ἵππους,
> οὐδέ ποτ᾽ ἐν Φθίῃ ἐριβώλακι βωτιανείρῃ
> καρπὸν ἐδηλήσαντ᾽, ἐπεὶ ἦ μάλα πολλὰ μεταξὺ
> οὔρεά τε σκιόεντα θάλασσά τε ἠχήεσσα.[56]
>
> For never have they driven off my cattle, nor my horses,
> Never in fertile Phthia, the nurse of heroes,
> Have they damaged the harvest, since many things are between us:
> Shadowy mountains and the roaring sea.

But it was for the Romans in the Italian peninsula that the Alps in particular came to symbolise a wall dividing and protecting them from the fierce and savage peoples on the other side. So, commenting on Vergil's line: *(fera Carthago). . . exitium*

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[54] Buxton, "Imaginary Greek Mountains," 12.
[55] N. E. Young, "The Mountains in Greek Poetry," in *Oxford Mountaineering Essays*, ed. A. H. M. Lunn (Oxford, 1912), 62. *Cf.* also the references to Heracles' crossing of the Alps above in n.34 and 36: Nep. *Hannibal*. II and Diod. Sic., IV.19 respectively.
[56] Hom. *Il.,* 154-157.

magnum atque Alpes inmittet apertas[57] '(fierce Carthage). . . will send great ruin and the opening of the Alps" Servius can say: *(Alpes). . . quae secundum Catonem et Livium muri vice tuebantur Italiam* '(the Alps). . . which according to Cato and Livy protected Italy like walls'.[58] Cicero, too, can call the Alps a *praesidium naturae* 'a natural defence' against the Germanic and Gallic peoples.[59] It is, indeed, Cicero who provides us with the most straightforward expression of this idea. He writes:

> *Alpibus Italiam munierat antea natura non sine aliquo divino numine.*[60]
>
> Nature had fortified Italy previously with the Alps and not without some divine will.

The protection that Nature provided for Italy was, according to Cicero, of critical importance to Rome's success in building an Empire. He continues:

> *Nam si ille aditus Gallorum immanitati multitudinique patuisset, numquam haec urbs summo imperio domicilium ac sedem praebuisset*.[61]
>
> For if that passage were open to the savagery and numerousness of the Gauls, never would this city have been able to offer a seat and home for the greatest empire.

It was not only Cicero who held the protective function of the Alps to be critical for the Romans, Pliny the Elder too recognised the defensive utility of the range:

> *Produnt Alpibus coercitas ut tum inexsuperabili munimento Gallias hanc primum habuisse causam superfundendi se Italiae . . .*[62]
>
> They say that the Gallic armies had this as their chief motive for invading Italy over the Alps, which were considered an impassible defense at that time . . .

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[57] Ver. *Aen.,* X.13. The translation here of the phrase *Alpes . . . apertas* as 'the opening of the Alps' follows S. J. Harrison's translation in his Oxford edition of *Aeneid* 10 (1991).
[58] Serv. *A.,* X.13. For Servius' *Commentary* I have used the Teubner edition of G. Thilo and H. Hagen (Leipzig, 1881).
[59] Cic. *Pis.*, 81.
[60] Cic. *Prov.,* 34.
[61] Cic. *Prov.,* 34.
[62] Plin. *NH.* XII.5.

Pliny, just as Cicero, saw that the Alps were of particular use to the Romans as a defence against the wild Gauls north of their peaks. But the mountains could be duplicitous on this point for they protected Italy from the dangerous Gauls and, at the same time, were home to these very peoples. We will return to this idea below under the sub-title *Distincitve Mountain People.*

Simler, too, recognised the role of the Alps as a barrier. This he did through ancient texts. In choosing to cite from various sources on the function of the Alps as a boundary, Simler distinguishes two perspectives on the matter: The first and more straightforward view is expressed in Polybius, who sees the Alps as a simple border between the Italy and the rest of Europe. Simler quotes the Greek historian in Latin:

> *Polybius lib. 2 scribit: "Alpes quae Italiam a Septentrione claudunt ad duo millia et ducenta stadia protendi."*[63]
>
> Polybius writes in book two: "The Alps, which close Italy off from the North, extend to a length of 2,200 stades".

The second view—that of the Alps as a protective force for Italy—Simler finds in Herodian. Once again, Simler cites the text in Latin translation:

> *Herodianus "Alpes" inquit "sunt altissimi montes, quales in his regionibus nulli; porrecti ad muri formam circumdatique Italiae quasi ad reliquam eius felicitatem hunc etiam quasi cumulum natura addiderit, ut munitionem haberet inexpugnabilem, pertingentem scilicet a Septentrionali ad id mare quod ad Meridiem spectat."*[64]
>
> Herodian says, "the Alps are very high mountains—of which sort there are none in our regions—which stretch out in the form of a wall surrounding Italy as if nature had imparted the finishing touch to the country's further happiness by giving it an unconquerable fortification, reaching from the north to the sea that faces toward the south."

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[63] Simler, *De Alpibus Commentarius,* 70. Simler cites Plb. II.14. The Greek text after the Teubner edition of Büttner-Wobst runs: τῶν δὲ πλευρῶν παρὰ μὲν τὴν ἀπὸ τῶν ἄρκτων, ὡς ἐπάνω προεῖπον, τὰς Ἄλπεις αὐτὰς ἐπὶ δισχιλίους καὶ διακοσίους σταδίους παρήκειν.

[64] Simler, *De Alpibus Commentarius,* 67 citing Herodian II.2.8: (Ἄλπες) μέγιστα ἐκεῖνα ὄρη, καί οἷα οὐκ ἄλλα ἐν τῇ καθ' ἡμας γῇ, ἐν τείχους σχήματι περίκειται καί προβέβληται Ἰταλίας, καί τοῦτο μετά τῆς ἄλλης εὐδαιμονίας παρασχούσης τῆς φύσεως Ἰταλιώταις, ἔρυμα ἄρρηκτον τῆς αὐτῶν προβεβλῆσθαι, ἀπό τῆς αρκτῴας θαλάσσης ἐπὶ τὴν πρὸς μεσημβρίαν βλέπουσαν διῆκον.

Simler brings these two clearly related ideas together in his own words during his discussion of the extent of the Alps in the second chapter of the *De Alpibus Commentarius*:

> *Italiam enim, quam finiunt et tuentur Alpes, quidam Carnis et Tergeste oppido circumscribunt, alii Pola et Formione amne, quidam vero ad Arsiam usque eandem producunt, et Istriam Italia comprehendunt.*[65]
>
> For some mark out Italy—which the Alps define and protect—up to Carniola and Trieste, others to Pula and the Formio river, still others stretch it out to the river Raša and include Istria in Italy.

vi) Distinctive Mountain People

The people of the Alps were divided neatly by the ancients into two groups, the Celts and the Ligurians. These groups were rarely mixed in the sources and were felt to have different roots although they shared similar ways of life:

> ἔθνη δὲ κατέχει πολλὰ τὸ ὄρος τοῦτο Κελτικὰ πλὴν τῶν Λιγύων: οὗτοι δ' ἑτεροεθνεῖς μέν εἰσι, παραπλήσιοι δὲ τοῖς βίοις.[66]
>
> These mountains are home to many peoples, all Celtic except the Ligurians. They are of another descent, but share a similar lifestyle.

They often fought together against the Romans and were seen to provide mutual aid in matters of warfare.[67] The reputation of these mountain peoples, as we have already seen in Cicero's passage above where he mentions their *immanitas*, was hardly respectable.[68] Diodorus Siculus' *Bibliotheca historica* contains this vivid passage on the lives of the Ligurians:

> οὗτοι γὰρ νέμονται μὲν χώραν τραχεῖαν καὶ παντελῶς λυπράν, τοῖς δὲ πόνοις καὶ ταῖς κατὰ τὴν λειτουργίαν συνεχέσι κακοπαθείαις ἐπίπονόν τινα βίον καὶ ἀτυχῆ ζῶσι.[69]

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[65] Simler, *De Alpibus Commentarius*, 70.
[66] Strab. *Geog.*, II.5.28.
[67] Jourdain-Annequin, *Quand Grecs et Romains découvraient les Alpes*, 56. Cf. Liv. XXXVI.39.6.
[68] See n. 60 above: Cic. *Prov.,* 34.
[69] Diod. Sic. V.39.

> These people live in a jagged and altogether wretched land. With their toils and continuous misery on account of their daily work they lead a painful and unfortunate life.

This rough and harsh way of life was widely thought to affect the nature of the men subjected to it. The Hippocratic corpus explains the connection between the mountain's unforgiving environment and the character of the men raised there in clear terms:

> ὁκόσοι μὲν χώρην ὀρεινήν τε οἰκέουσι καὶ τρηχεῖαν καὶ ὑψηλὴν καὶ ἔνυδρον, καὶ αἱ μεταβολαὶ αὐτοῖσι γίνονται τῶν ὡρέων μέγα διάφοροι, ἐνταῦθα εἰκὸς εἴδεα μεγάλα εἶναι καὶ πρὸς τὸ ταλαίπωρον καὶ τὸ ἀνδρεῖον εὖ πεφυκότα, καὶ τό τε ἄγριον καὶ τὸ θηριῶδες αἱ τοιαῦται φύσιες οὐχ ἥκιστα ἔχουσιν.[70]
>
> Such (people) as inhabit a country which is mountainous, rugged, elevated, and well watered, and where the changes of the seasons are very great, are likely to have large bodies among them, and to be naturally of an enterprising and warlike disposition; and such persons are apt to have no little of the savage and ferocious in their nature.

This type of environmental determinism—attributing a person's characteristics to their domestic environment—occurs widely in classical literature. Herodotus, for example, has Cyrus warn the Persians:

> ἐκ τῶν μαλακῶν χώρων μαλακοὺς γίνεσθαι· οὐ γὰρ τι τῆς αὐτῆς γῆς εἶναι καρπόν τε θωμαστὸν φύειν καὶ ἄνδρας ἀγαθοὺς τὰ πολέμια.[71]
>
> Soft lands breed soft men; wondrous fruits of the earth and valiant warriors do not grow from the same soil.

Here, the Persians are considering abandoning their own country in search of something better. They describe their homeland in terms similar to Diodorus Siculus' account of the Ligurian Alps: γῆν . . . ὀλίγην καὶ τρηχέαν 'a sparse and rugged land'.[72] Similarly, Tacitus describes the physical character of the Germans

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[70] Hippoc. *Aer.* 24. The text of Hippocrates follows that of E. Littré, *Oeuvres complètes d'Hippocrate*, 10 vols. (1839-61), which remains the most extensive edition.
[71] Hdt. IX.122.3.
[72] Hdt. IX.122.3.Cf. Diod. Sic. V.39 in n. 68 above.

through a direct association with their country's physical and meteorological conditions: *(tolerare) frigora atque inediam caelo solove adsueverunt.*[73] 'They have become accustomed to tolerating cold and hunger by their climate or soil.'

The Celtic Gauls and Ligurians of the Alps were no exception to this characterisation in terms of their country's predominant landscape. These men living ἐπίπονόν τινα βίον καὶ ἀτυχῆ 'a hard and unfortunate life' were considered brigands and—in Rome—hardly worthy of the attention of professional armies:

> *. . . nunc quantus pudor esset edocens ab Liguribus, latronibus verius quam hostibus iustis, Romanum exercitum obsideri.*[74]
>
> . . . now pointing out how shameful it was that a Roman army be besieged by Ligurians, more thieves than real opponents.

They were warlike—as their mountainous homeland ought to determine—and had few cultural developments:

> διὰ γὰρ τὸ στιβαδοκοιτεῖν καὶ κρεαφαγεῖν, ἔτι δὲ μηδὲν ἄλλο πλὴν τὰ πολεμικὰ καὶ τὰ κατὰ γεωργίαν, ἀσκεῖν ἁπλοῦς εἶχον τοὺς βίους, οὔτ᾽ ἐπιστήμης ἄλλης οὔτε τέχνης παρ᾽ αὐτοῖς τὸ παράπαν γινωσκομένης.[75]
>
> Since they slept rough and fed on meat, and further knew nothing but war and agriculture, they led simple lives, acquainted with neither art nor any other form of science.

This fierce, warlike and barbaric image of the Alpine peoples among classical writers could form a part of the idea of the mountains as a barrier. They might deter other invaders from undertaking the already formidable task of crossing the icy Alpine peaks. Plutarch explains this idea in his account of Aemilius Paulus' expedition against the Ligurians, who he describes in familiar terms as μάχιμον καί θυμοειδὲς ἔθνος 'a warlike and spirited people':

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[73] Tac. *Ger.,* IV.
[74] Liv. XL.27. Note that this passage emphasises the negative associations of the rough-hewn mountain men. This is in contrast to the more neutral opinion found in the Hippocratic corpus and the positive opinion in Herodotus above.
[75] Plb. II.17.

> οὐ γὰρ ἦν βουλομένοις τοῖς Ῥωμαίοις παντάπασιν ἐκκόψαι τὸ Λιγύων ἔθνος, ὥσπερ ἔρκος ἢ πρόβολον ἐμποδὼν κείμενον τοῖς Γαλατικοῖς κινήμασιν ἐπαιωρουμένοις ἀεὶ περὶ τὴν Ἰταλίαν.[76]
>
> For it was not the wish of the Romans to completely wipe out the Ligurian people, for they lay as a kind of barrier or defending impediment against the movements of the Gauls who were always hovering around Italy.

But the ferocious reputation of these mountain-dwelling Celts and Ligurians could also be used to create a fearful and dangerous image of the Alps themselves. This side of the mountains' image appears, strongly stated, in Silius Italicus' and Livy's accounts of Hannibal crossing the Alps. The magnitude of the Carthaginian general's undertaking and his battles against the terrain and natives in the terrifically cold and intimidating Alps emphasises the enormity of his threat to Rome, and the enormity of Rome's success in keeping him out of the capital. The horror of the Alps and the role their inhabitants had to play in maintaining that image is captured in book three of the *Punica*. The author takes advantage of the mountain setting and its characters to insist on violence and gruesomeness:

> *Iamque super clades atque importuna locorum*
> *inluuie rigidaeque comae squalore perenni*
> *horrida semiferi promunt e rupibus ora,*
> *atque effusa cauis exesi pumicis antris*
> *Alpina inuadit manus adsuetoque uigore*
> *per dumos notasque niues atque inuia pernix*
> *clausum montiuagis infestat cursibus hostem.*
> *mutatur iam forma locis. hic sanguine multo*
> *infectae rubuere niues, hic nescia uinci*
> *paulatim glacies cedit tepefacta cruore.*[77]
>
> Now further to the adversities and obstacles of the place
> Half-wild men emerge from the rocks, their faces
> Hideously filthy and their hair caked with grime,
> Seething out from volcanic caves in the rock
> The swift natives of the Alps attack with the speed of habit
> Through the brambles, the snowdrifts they know and the pathless rock

[76] Plut. *Aem.,* VI.2.
[77] Sil. *Pun.*, III.540-549. The text here follows that the Budé edition of P. Miniconi and G. Devallet (Paris, 1979).

> And the band of mountain men in waves swarms the enemy hemmed in.
> Now the face of the place changes. Here the snow turns red
> Stained with a lot of blood, and here the ice, unwilling to yield,
> Slowly gives way to the thawing gore.

This description of the mountain folk does not differ significantly from that of Livy, whose account of the Second Punic War provided much source material for the later poetic rendering of Italicus. In Livy's description the mountain dwellers are pictured as *homines intonsi et inculti,* 'rough and shaggy men'. Their homes are *tecta informia inposita rupibus,* 'formless houses perched on the cliffs'. And their frozen surroundings, *animalia inanimaque omnia rigentia gelu* 'animals and inanimate objects alike solid with ice', are *visu quam dictu foediora,* 'more horrible to see than to hear'.[78]

While Simler registers his surprise at the lack of a Latin account of the 'deeds and customs' of the Swiss in his preface, his chapter *De Gentibus Alpinis* constitutes less a historical and ethnographical account of the Alpine peoples than an attempt to compile a detailed list of the Alps' ancient tribes.[79] Simler—a Swiss man himself—has good reason to overlook the violent and uncultivated reputation of his countrymen in his description of the Alps. However, his list and short commentaries on the ancient Alpine tribes are based on the names of the tribes recorded on the *Tropaeum Alpium* at La Turbie, France. The monument was constructed in 6 B.C. in honour of Emperor Augustus' victories over the Alpine tribes between 13 and 7 B.C. Simler prints the text inscribed on the trophy as recorded by Pliny before gathering further information about each tribe under a separate heading.[80] The inscription is—by its very nature—a testament to the adversarial relationship between the Romans and the Alpine tribes, and the

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[78] Liv. XXI.32.7.

[79] Simler notes his surprise at the lack of a Latin record of the Swiss country and peoples in the first sentence of the preface to the *De Alpibus Commentarius*: *saepe admiratus sum . . . neminem hactenus extitisse, qui ipsorum res bello et pace praeclare gestas, ad haec regionis situm et hominum mores, Latina lingua describeret, quo nostra etiam ab exteris et remotis gentibus cognosci possent* (65). Simler's chapter *De Gentibus Alpinis* is chapter XV in his work and runs from p.116-121.

[80] Plin. *NH.* III.136. The Alpine peoples listed by Simler are: the *Triumpilini, Camuni, Vennotes, Vennonetes, Hisarci, Breuni, Naunes, Focunates, Vindelicorum Gentes IV, consuanetes, Virucinates, Licates, Cattenates, Abisontes, Rugusci, Suanetes, Collucones, Brixentes, Lepontii, Viberi Nantuates, Seduni, Varagri, Salassi, Acitauones, Medulli, Ucenni, Caturiges, Brigiani, Sontiontii, Ebroduntii, Nemaloni, Edennates, Esubiani, Veamini, Gallicae, Triulatti, Ectini, Vergunni, Eguituri, Nementuri, Oratelli, Verusi, Velnani,* and *Suetri.*

conflicts between them.[81] To this extent, then, Simler acknowledges the opposition between Rome and the tribes of his native Switzerland evidenced in the ancient texts cited above. He does not, however, go into further detail about the character of his countrymen and, naturally, does not see them as odd or uncultivated.

vii) The Horror of the Mountain

Many of the themes treated thus far in this chapter converge in Livy and Silius Italicus to construct a fearful and dread-filled image of mountain scenery. The awful weather, the mountain's proximity to the Gods, their wild aspects, their role as a boundary and their fierce inhabitants come together to form an intimidating backdrop to the epic struggle of Hannibal's army over the mountain passes. Livy does not miss the opportunity to add drama to his account in building up tension about the tough mountain environment that Hannibal's troops will encounter:

> *Multitudo timebat quidem hostem nondum oblitterata memoria superioris belli, sed magis iter immensum Alpesque, rem fama utique inexpertis horrendam, metuebat.*[82]
>
> The mob were certainly scared of the enemy, their memory of the last war was not yet forgotten, but they feared more the immeasurable march and the Alps, a horrific affair by its repute especially for the inexperienced.

Hannibal addresses his troops *in conspectu Alpis* 'with the Alps in sight' and prepares them for the scenery they are about to uncover: *Quid Alpis aliud esse credentes quam montium altitudines?* 'What else could they believe the Alps to be except high mountains?' We have already seen that they represented far more than that: *Fingerent altiores Pyrenaei iugis: nullas profecto terras caelum contingere nec inexsuperabiles humano generi esse* 'They might imagine the Alps higher than the Pyrenees: but no

[81] The text of the inscription naturally emphasises the Romans' victory over the tribes: *gentes Alpinae omnes quae a mari supero ad inferum pertinebant, sub Imperium Po. Rom. sunt redactae . . . Gentes Alpinae devictae . . .* Plin. *NH.* III.136.
[82] Liv. XXI.29.7.

lands can be believed to touch the heavens or to be unconquerable by mankind.'[83] But then the combined effect of the mountain's connection to the Gods, extreme weather and wildness—all of which we have noted above—are brought home to Hannibal and his men:

> *Tum, quamquam fama prius, qua incerta in maius vero ferri solent, praecepta res erat, tamen ex propinquo visa montium altitudo nivesque caelo prope inmixtae . . . terrorem renovarunt.*[84]
>
> Then, although an advance report, which would usually exaggerate things which are yet unknown, had anticipated the shock, the sight of the high mountains up close and their snows almost blending with the sky . . . refreshed their horror.

This vast and terrifying image of the mountain is maintained throughout Livy's account of Hannibal's crossing. As the Carthaginians make their first camp in the mountains the reader is again reminded of the fearful landscape surrounding them: *castra inter confragosa omnia praeruptaque quam extentissima potest valle locat,* 'he made camp in the widest valley he could between the broken and precipitous rocks all around.'[85] Even as the army reach a resting point at the height of their crossing, the mountains will not let them relax: *Fessis taedio tot malorum nivis etiam casus occidente iam sidere Vergiliarum ingentem terrorem adiecit,* 'exhausted now and wearied from so many hardships, a snowstorm, signalled by the setting of the Pleiades constellation, heaped on them enormous fear.'[86] Thus the description of the mountain continues throughout the episode in Livy.

While the Alps certainly form an intimidating landscape in the *Ab Urbe Condita,* Silius Italicus paints an even more ghastly picture of the mountain scene in his account of the moment when the Carthaginians first lay eyes on the Alps:

> *Sed iam praeteritos ultra meminisse labores*
> *conspectae propius dempsere pauentibus Alpes.*
> *cuncta gelu canaque aeternum grandine tecta*
> *aequaeuam glaciem cohibent: riget ardua montis*
> *aetherii facies surgentique obuia Phoebo*

[83] Liv. XXI.30.6-7.
[84] Liv. XXI.32.7.
[85] Liv. XXI.32.9.
[86] Liv. XXI.35.6.

duratas nescit flammis mollire pruinas.
quantum Tartareus regni pallentis hiatus
ad manis imos atque atrae stagna paludis
a supera tellure patet, tam longa per auras
erigitur tellus et caelum intercipit umbra.[87]

But now all memory of previous hardship was dispelled
By terrors when they saw the Alps close at hand.
The entire region is perpetually covered by hail and white frost
And they restrain the ice of the same age: the steep face
Of the lofty mountain rises stiffly upwards and though it faces the sun
It refuses to soften its hard frost in its rays.
As deep as the chasm of Tartarus descends to the dead below
And the pools of dark marsh, which divides the upper world
From the pale kingdom below, so high does the earth rise
In the skies shutting out heaven in shadow.

The reaction of Hannibal's soldiers to the view of the Alps (*visa* in Livy and *conspectae. . . Alpes* in Italicus) is one of terror and fear. It is an ugly landscape that inspires horror in the soldiers. The authors of these accounts have a dramatic scene in mind for their descriptions. The more difficult and arduous Hannibal's passage over the Alps, the more imposing an enemy he makes for the Romans to eventually conquer. The abnormal fortitude and energy of the Carthaginian leader himself—as well as his inhuman savageness—is described by Livy in the opening chapters of book XXI. Hannibal's attributes can also be proven against the mountain's imposing and frightening terrain.[88]

However, the dangerous and frightening picture of the mountain was more than just a scene used to emphasise and colour sections of Livy and Italicus' narratives. The image had currency in a wide number of other authors and contexts. Palinurus, for example, adrift in the sea in book six of the Aeneid, comes to land and is found *prensantemque uncis manibus capita aspera montis* 'gripping the

[87] Sil. *Pun.,* III.477-486.
[88] For the description of Hannibal's character see Liv. XXI.4.2-10. The passage on his cruelty and other vices (Liv. XXI.4.9) is particularly vivid: *Has tantas viri virtutes ingentia vitia aequabant: inhumana crudelitas, perfidia plus quam Punica, nihil veri, nihil sancti, nullus deum metus, nullum ius iurandum, nulla religio.*

harsh crags of a mountain with clenched hands'.[89] He is then promptly attacked by that other feature of the terrifying mountain scenery, a *gens crudelis*.[90]

The mountain can even be used as a simile for gross ugliness, as in the *Odyssey's* description of the Cyclops, for example:

> καὶ γὰρ θαῦμ᾽ ἐτέτυκτο πελώριον, οὐδὲ ἐῴκει
> ἀνδρί γε σιτοφάγῳ, ἀλλὰ ῥίῳ ὑλήεντι
> ὑψηλῶν ὀρέων, ὅ τε φαίνεται οἶον ἀπ᾽ ἄλλων.[91]
>
> For he was created an incredibly monstrous thing, nor was he like
> Any other man that eats bread, but just as a wooded crag
> Of the towering mountains, which appears apart from the others.

Or in the description of the wife of Antiphates, King of the Laestrygonians:

> οἱ δ᾽ ἐπεὶ εἰσῆλθον κλυτὰ δώματα, τὴν δὲ γυναῖκα
> εὗρον, ὅσην τ᾽ ὄρεος κορυφήν, κατὰ δ᾽ ἔστυγον αὐτήν.[92]
>
> When they entered the glorious house, they found his wife,
> As huge as a mountain peak, and they abhorred her.

Authors repeatedly come back to the terrifying sight of the Alps rising up out of the earth. Ammianus Marcellinus, for example, describes the mountain range as comprised of *suggestus montium arduos, et horrore nivali semper obductos,* 'steep mountain inclines, always covered with horrible snow.' And his passage on the effect of the view of the Cottian Alps on a traveller passing through from France captures the mountain's terrifying visual effect:

> *In his Alpibus Cottiis, quarum initium a Segusione est oppido, praecelsum erigitur iugum, nulli fere sine discrimine penetrabile. Est enim e Galliis venientibus prona humilitate devexum, pendentium saxorum altrinsecus visu terribile . . .*[93]

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[89] Ver. *Aen.*, VI.360.
[90] See sub-chapter vi) *Distincitve Mountain People* above.
[91] Hom. *Od.,* IX.190-3.
[92] Hom. *Od.,* X.112-3.
[93] Amm. XV.10.3-4. The text here follows that of W. Seyfarth, (Berlin, 1970-1 & 78).

> In these Cottian Alps, which have their start at the town of Suse, an exceptionally high peak rises up, which scarcely anyone can cross without danger. For people coming from Gaul it is a slope with a modest incline, but on the other side it is a terrible sight of overhanging cliffs . . .

Strabo, too, describes the massive and frightening aspects of the Alpine landscape in his *Geography*. Writing of Caesar's conquest of the Alps and its peoples, he writes:

> οὐ γὰρ δυνατὸν πανταχοῦ βιάσασθαι τὴν φύσιν διὰ πετρῶν καὶ κρημνῶν ἐξαισίων, τῶν μὲν ὑπερκειμένων τῆς ὁδοῦ τῶν δ᾽ ὑποπιπτόντων, ὥστε καὶ μικρὸν ἔκβασιν ἄφυκτον εἶναι τὸν κίνδυνον, εἰς φάραγγας ἀβύσσους τοῦ πτώματος ὄντος.[94]
>
> For it was not possible to overcome nature everywhere because of the rocks and immense cliffs. Some of these tower above the road, while others sink down beneath so that if the traveller errs only just a little, he is in inescapable danger of falling into bottomless chasms.

The horror that the weather conditions could also bring to the mountain scene is illustrated in Petronius' *Satyricon* during Eumolpus' recitation of his *Bellum Civile*. Petronius (Eumolpus) makes the weather an enemy of Caesar as his troops cross the Alps. At first the waters on the mountain are bound fast by the ice, but as Caesar's troops begin to move, their feet break the frost and crush the snow. This movement turns the conditions against them:

> *Tum vero male fida prius vestigia lusit*
> *decepitque pedes; pariter turmaeque virique*
> *armaque congesta strue deplorata iacebant.*
> *Ecce etiam rigido concussae flamine nubes*
> *exonerabantur, nec rupti turbine venti*
> *derant aut tumida confractum grandine caelum.*
> *Ipsae iam nubes ruptae super arma cadebant,*
> *et concreta gelu ponti velut unda ruebat*.[95]
>
> Then, indeed, treacherous before, (the passage) now mocked their steps

[94] Strab. IV.6.6.
[95] Petr. *Sat.,* CXXIII.11-18

> And tricked their feet; cavalry, men,
> And weapons all fell together and lay together in a miserable heap.
> Now the clouds, also stirred by a strong gust of wind,
> Released their burden, there were blasts of wind
> And the sky split with swollen hail.
> Now the clouds themselves burst and fell over the weapons,
> And it charged on them with stiff ice like the waves of the sea.

Simler knew the difficulties and dangers of the Alpine environment. Indeed, he dedicated a section of his *De Alpibus Commentarius* to precisely this topic. Chapter fourteen, entitled *De Itinerum Alpinorum Difficultatibus et Periculis et Quomodo Haec Superari Possint*, deals with the full range of obstacles the prospective Alpine traveller could expect to face, from *Itinera alpina angusta,* 'the narrow alpine paths' and *Periculum in locis lubricis et praecipitibus,* 'the danger in slippery and steep areas' to *Tempestates alpinae,* 'Alpine storms'.[96] Moreover, Simler was also sensitive to the fear that the sight of the mountains could strike into travellers. He recognised that the vertiginous views from narrow mountain paths could overwhelm some visitors:

> *Plerunque autem prospectus ex his locis in profundissimas valles subiectas magnum horrorem transeuntibus incutit, adeo, ut multi vertiginis metu ab incolis qui itineribus huiusmodi assueti sunt, manu ducantur.*[97]
>
> Frequently, moreover, the view from these places over the deepest valleys below strikes great fear into travellers. So much so, that many are lead by the hand—out of fear of dizziness—by locals who are accustomed to such journeys.

And he quotes at length from Silius Italicus on the fearful and disheartening effect of the mountain peaks amassing one after the other in front of the weary traveller:

> *. . . Ardua supra*
> *Sese aperit fessis, et nascitur altera moles,*
> *Unde nec edomitos exudatosque labores*
> *Respexisse libet; tanta formidine plena*
> *Exterrent repetita oculis . . .* [98]

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[96] Simler, *De Alpibus Commentarius*, 110-116. Simler also deals with: *Pericula propter glaciem; Profundae nives; Labinae* and *Alpina frigora.* All the topics are arranged under marginal sub-headings following the pattern of the rest of the work.
[97] Simler, *De Alpibus Commentarius,* 110.

> . . . The heights above
> Open themselves up to the weary travellers, and another crag rises up.
> From there it is not even pleasing to look back at the toils they have overcome
> And sweated over; so much do the bulky masses terrify
> Their eyes with repeated fear . . .

It is, in fact, Silius' dramatic and fearful description of the Alps that Simler takes as exemplary in the *De Alpibus Commentarius.* The third chapter of the work is given over to a commentary on Silius' description of the Alps as Hannibal and his men approach the mountain range.[99] For Simler, Silius' lines represent the typical image of the Alps in the minds of his contemporaries:

> *Visum est hic Alpium elegantissimam descriptionem ex Silio Italico subiicere: nam quum eius carmina a plerisque nostrae aetatis scriptoribus, qui de Alpibus tractant, adducantur, existimavi ea a me absque piaculo quodam omitti non posse.*
>
> It seems right to me to add here Silius Italicus' most fine description of the Alps, for since his verses are mentioned by most contemporary writers who treat the Alps, I do not think I can omit them without committing a sin.

And while Simler sees some truth in Silius' verses:

> *Quae hic a Silio scribuntur, partim de totis montibus, partim de certa illarum parte accipienda sunt.*[100]
>
> These things written by Silius' are to be accepted partly about all mountains, but partly only about some certain ones.

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[98] Sil. *Pun.,* III.529-533 cited by Simler, *De Alpibus Commentarius,* 111. Simler actually cites more fully from Silius, printing lines 528-539. I have reduced the citation here for the sake of economy.
[99] Simler, *De Alpibus Commentarius*, 72-76. Simler cites Sil. *Pun.*, III.479-495: *cuncta gelu canaque aeternum grandine tecta/ aequaeuam glaciem cohibent: riget ardua montis/ aetherii facies surgentique obuia Phoebo/ duratas nescit flammis mollire pruinas./ quantum Tartareus regni pallentis hiatus/ ad manis imos atque atrae stagna paludis/ a supera tellure patet, tam longa per auras/ erigitur tellus et caelum intercipit umbra./nullum uer usquam nullique aestatis honores./ sola iugis habitat diris sedesque tuetur/ perpetuas deformis hiemps; illa undique nubes/ huc atras agit et mixtos cum grandine nimbos./ iam cuncti flatus uentique furentia regna/ Alpina posuere domo. caligat in altis/ obtutus saxis, abeuntque in nubila montes./ mixtus Athos Tauro Rhodopeque adiuncta Mimanti/ Ossaque cum Pelio cumque Haemo cesserit Othrys.*
[100] Simler, *De Alpibus Commentarius,* 72.

He is alive to the poetic licence that the ancient author employed and dedicates much of his commentary to tempering Silius' extravagant image of the Alps in the *Punica*. Simler explicitly labels Silius' images as *poetica* and recognises the exaggeration at work in his representation of the Alps' height: *hac enim amplificatione voluit incredibilem altitudinem indicare,* 'with this hyperbole he wanted to represent their incredible height.'[101] Simler is content, then, to acknowledge that Silius' affected and theatrical image of the fearful Alpine peaks represents the typical picture of the mountains among his fellow writers. His own thought is subtle enough, however, to realise that while there is truth in the description, there is a degree of creative freedom at work in Silius' verses.

viii) The Mountain as a Viewpoint

The mountain was not always hostile to generals crossing its peaks, however. The tactical convenience of the mountain's altitude for gaining a view was not unknown to the Greeks and Romans. Caesar, for example, in the chapter preceding the lines from the *Satyricon* above, reaches a peak among the Alps from where he can survey the view:

> *Haec ubi calcavit Caesar iuga milite laeto*
> *optavitque locum, summo de vertice montis*
> *Hesperiae campos late prospexit . . .*[102]
>
> When Caesar with his successful army trod these ridges
> And selected a place, on the mountaintop,
> And he looked out far over the fields of Hesperia . . .

Odysseus πολύτροπος also knew the value of a mountain's height for getting a view:

> εἶδον γὰρ σκοπιὴν ἐς παιπαλόεσσαν ἀνελθὼν
> νῆσον, τὴν πέρι πόντος ἀπείριτος ἐστεφάνωται:
> αὐτὴ δὲ χθαμαλὴ κεῖται . . .[103]

[101] Simler, *De Alpibus Commentarius,* 75.
[102] Petr. CXXII.31-33.
[103] Hom. *Il.,* X.194-6.

> For going up the rugged cliff I saw
> The island, encircled by the endless sea,
> The isle itself lying low . . .

And Philip V of Macedon undertook to ascend Mount Haemus in Thrace to determine his tactical approach in the conflict with the Romans:

> *Cupido eum ceperat in verticem Haemi montis ascendendi, quia volgatae opinioni crediderat Ponticum simul et Hadriaticum mare et Histrum amnem et Alpes conspici posse: subiecta oculis ea haud parvi sibi momenti futura ad cogitationem Romani belli.*[104]
>
> The desire had seized him (Philip) to ascend the peak of the Haemus mountain, because he believed the common opinion that it was possible to see both the Adriatic sea and the Pontus as well as the Hister river and the Alps all at the same time: these things in view beneath his eyes they would have no small weight in planning for a war with Rome.

His ascent of the mountain was mentioned by Petrarch in the opening paragraphs of the famous *Familiares* IV.1 on the ascent of Mont Ventoux, who cites Philip's effort as part of his own inspiration for undertaking his own climb.[105] But if the expressly stated purpose of Petrach's excursion is taken at face value and he was *sola videndi insignem loci altitudinem cupiditate ductus,* 'led by the sole desire to see the exceptional height of the place', then the spirit of his climb is much more akin to those ascents made in antiquity out of curiosity or—in rare cases—to enjoy the beauty of a certain view.[106] Two such rare cases are found in the Late Antique *Historia Augusta.* They are accounts of ascents by Emperor Hadrian of Mount Aetna in Sicily and Mount Casius in Egypt. The two accounts—even if spurious—at least have a certain consistency:

> *Post in Siciliam navigavit, in qua Aetnam montem conscendit, ut solis ortum videret . . .* [107]

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[104] Liv. XL.21.2.
[105] *Cepit impetus tandem aliquando facere quod quotidie faciebam, praecipue postquam relegenti pridie res Romanas apud Livium forte ille mihi locus occurrerat, ubi Philippus Macedonum rex - is qui cum populo Romano bellum gessit - Haemum montem Thessalicum conscendit, e cuius vertice duo maria videri, Adriaticum et Euxinum, famae crediderat. . .* Petrarch, *Familiares* IV.1.
[106] For Pet. *Fam.* IV.1 see the Introduction, subchapter iv) *Petrarch,* Fam. *IV.1.*
[107] *Hist. Aug.,* Hadrian 13.3.

> Then he sailed to Sicily, where he climbed Mount Aetna to see the sunrise . . .
>
> *Sed in monte Casio, cum videndi solis ortus gratia nocte ascendisset, imbre orto fulmen decidens hostiam et victimarium sacrificanti adflavit.*[108]
>
> But as he was making a sacrifice on Mount Casio, which he had ascended at night in order to see the sun rise, lightening struck the victim and the one who was sacrificing it after a storm broke out.

Strabo's information about Mount Aetna's peak was related to him by νεωστὶ ἀναβάντες, 'people who had recently climbed up' the mountain. His account perhaps provides anecdotal evidence for the veracity of the *Historia Augusta's* claim about Hadrian's visit to Aetna, for it seems that it was common for tourists to ascend the volcano:

> πλησίον δὲ τῶν Κεντορίπων ἐστὶ πόλισμα ἡ μικρὸν ἔμπροσθεν λεχθεῖσα Αἴτνη τοὺς ἀναβαίνοντας ἐπὶ τὸ ὄρος δεχομένη καὶ παραπέμπουσα· ἐντεῦθεν γὰρ ἀρχὴ τῆς ἀκρωρείας.[109]
>
> Near Centoripa is the town of Aetna, which was mentioned a little above, whose people entertain and conduct those who ascend the mountain; for the mountain-summit begins here.

The Greek geographer made his own ascent, however, of Acrocorinth. Strabo calls the peak ὄρος ὑψηλὸν 'a lofty mountain', although it is considerably smaller than Aetna.[110] Nevertheless, he recorded his view from the summit:

> Ἀπὸ δὲ τῆς κορυφῆς πρὸς ἄρκτον μὲν ἀφορᾶται ὅ τε Παρνασσὸς καὶ ὁ Ἑλικών, ὄρη ὑψηλὰ καὶ νιφόβολα, καὶ ὁ Κρισαῖος κόλπος ὑποπεπτωκὼς ἀμφοτέροις, περιεχόμενος ὑπὸ τῆς Φωκίδος καὶ τῆς Βοιωτίας καὶ τῆς Μεγαρίδος καὶ τῆς ἀντιπόρθμου τῇ Φωκίδι Κορινθίας καὶ Σικυωνίας.[111]
>
> From the summit towards the north Parnassus and Helicon can be seen, lofty mountains covered with snow. Then the Crisaean Gulf, beneath the

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[108] *Hist. Aug.,* Hadrian 14.3.
[109] Strab. VI.2.8.
[110] Acrocorinth is 575 metres high, while Mount Aetna rises to an impressive 3,350 metres.
[111] Strab. VII.6.21.

> two, and surrounded by Phocis, Boeotia, Megaris on the west as well as by the Corinthian district opposite to Phocis, and by Sicyonia.

Interestingly for the development of the appreciation of mountain views that will be described in the following chapters, Strabo's description of the view records views of other mountains from Acro-Corinth as well as the layout of towns. In this way, his geographer's eye is what most characterises and informs his view. In Strabo's case, however, this does not lead to any explicit pleasure in the view unlike later Neo-Latin records of similarly described *prospectus.*[112]

Pausanias' record of Ταλετοῦ δὲ οὐ πόρρω καλούμενός . . . Εὐόρας, 'a place not far from Taletum called *Bellevue'*, perhaps retains a hint of aesthetic pleasure in the view from this part of the Taygetus range. But Pausanius' only real praise of the place is for its plentiful supply of animals to hunt.[113] Strabo's reference to Mount Tmolus above Sardeis does not go any further towards demonstrating real aesthetic appreciation of the prospect from the peak, despite calling it εὔδαιμον ὄρος, ἐν τῇ ἀκρωρείᾳ σκοπὴν ἔχον 'a blessed mountain with a look-out on its summit'. He quickly moves on to the topographic features of the area and—just as in the passage on Acrocorinth—does not linger on the view.[114] The views recorded in these texts are incidental and secondary. Their authors found themselves on a mountain while describing the geography of the land or another feature in the area. The view catches their eye for a fleeting moment. In the passages of Strabo and Pausanias mentioned above, no more than a sentence is dedicated to the view, and frequently less than that. But the pieces do serve to bring us close to another facet of the mountain image in antiquity: it could be a space for inquiry, curiosity and *miracula* as we will see in the next section below.

Views were a significant part of Simler's idea of the mountain. He had read of Hannibal's pause in the Alps to show his soldiers their goal from a vantage point. He recounts the event in his own words after reflecting on the varied views available both from and of the Alps:

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[112] For the development of aesthetic appreciation of views of and from mountains—in particular the role of the word *prospectus*—see below in *Geographia, Prospectus, Pictura*, *passim*.
[113] Paus. III.20.4. For the mountain as a place to hunt, explore and collect raw materials, see the sub-chapter below ix) *The Mountain: Exploration, Discovery and Assets.*
[114] Strab. XIII.4.5

> *Postremo Alpes ex plurimis locis Italiae, Galliae, Germaniae cernuntur, ac rursus ex summis Alpium iugis longe lateque prospectus patet; itaque Annibal militibus suis ex promontorio Alpium Italiam et circumpadanos campos ostentabat ad confirmandos eorum animos, quibus facile etiam licuisset ex iisdem Alpibus Galliam et Rhodanum contemplari.*[115]
>
> Finally, the Alps can be seen from many places in Italy, France and Germany. In turn, the view from the highest peaks of the Alps stretches out far and wide. Accordingly, then, Hannibal showed Italy and the fields around the Po Basin to his troops from a prominent point in the Alps, in order to encourage their spirits. It would also easily have possible for them to consider France and the Rhone from the very same Alps.

Simler signals his own appreciation of the sights available from the Alps in a short phrase in his discussion of the height of the mountain range: *estque jucundissimum spectaculum ex alto monte contemplari solem paulatim orientem,* 'it is a most pleasant sight to consider the sun gradually rising from the height of a mountain'. This is, however, the only hint of enthusiasm for the mountain in the *De Alpibus Commentarius*. Apart from Simler's words of appreciation for the mountain environment in the work's preface, the *De Alpibus Commentarius* relies on the classical tradition to inform its picture of the Alps.[116] That picture, as we have seen, does not put a great deal of emphasis on the beauty of mountain views, but rather on their use as vantage points.

ix) The Mountain: Exploration, Discovery and Assets

Strabo's νεωστὶ ἀναβάντες who had just climbed Aetna, did so to explore the volcano and its crater.[117] The mountain was a good place to go in search of something unusual and outside everyday experience. The general curiosity about Mount Aetna can perhaps be best seen in Strabo's passage on the volcano when he refers to the πολλὰ μυθεύεσθαι καὶ μάλιστα οἷά φασί τινες περὶ Ἐμπεδοκλέους 'the

[115] Simler, *De Alpibus Commentarius*, 72.
[116] For Simler's enthusiasm for the mountain in the preface see: Simler, *De Alpibus Commentarius*, 28 and, here, n.19. The sentiment and wording of this mountain appreciation derives from the work of Conrad Gesner. For this connection, see also n.19 above.
[117] See sub-chapter *The Mountain as a Viewpoint* above, n.107: Strab. VI.2.8.

many stories told and particularly those things they say about Empedocles.'[118] The philosopher was said to have thrown himself into the crater to deceive people into thinking he had been immortalised. His plan failed when the volcano spat back out one of his sandals.[119] Strabo's informants apparently expressed their scepticism about the story but their interest was enough for him to record it nonetheless. Two other men on the mountain at the same time as Strabo's informants demonstrated their curiosity by attempting to get as close to the centre of the crater as they could:

> ἐπειδὴ θερμοτέρας ἐπέβαινον τῆς ψάμμου καὶ βαθυτέρας, ἀναστρέψαι μηδὲν ἔχοντας περιττότερον φράζειν τῶν φαινομένων τοῖς πόρρωθεν ἀφορῶσι.[120]
>
> But as the sand they were walking on became hotter and deeper, they turned back and had no more to relate than those looking on who watched from a distance.

Pausanias, too, records an intriguing feature of Aetna's crater. In his description of Laconia he talks of the small lake Ino, whose waters can be used to read portents by throwing in barley cakes. If they sank, the person who threw the cake had good luck, while if they floated it was a bad sign. Aetna's craters, relates Pausanias, have a similar feature:

> καὶ γὰρ χρυσοῦ ἐς αὐτοὺς καὶ ἀργύρου ποιήματα, ἔτι δὲ καὶ ἱερεῖα τὰ πάντα ἀφιᾶσι: ταῦτα δὲ ἢν μὲν ὑπολαβὸν ἀπενέγκῃ τὸ πῦρ, οἱ δὲ χαίρουσιν ὡς ἐπὶ πεφηνότι ἀγαθῷ, ἀπωσαμένου δὲ τὰ ἐμβληθέντα συμφορὰν ἔσεσθαι τούτῳ τῷ ἀνδρὶ νομίζουσι.[121]
>
> For they lower into the craters gold and silver objects as well as all types of sacrificial victims: if the fire accepts these things by taking them under they are happy at the revelation of a good sign, but if it throws out the things put in they think it bad luck for the man who threw them in.

With their towering height and association with the Gods, there are also accounts recorded of men ascending mountains to observe and investigate the heavens. One

[118] Strab., VI.2.8.
[119] D.L. VIII.69.
[120] Strab., VI.2.8.
[121] Paus. III.23.9.

such 'researcher' was Eudoxos: *quidem in cacumine excelsissimi montis consenuit, ut astrorum caelique motus deprehenderet,* 'who grew old on the top of a high mountain so that he could observe the movements of the sky and the stars'.[122] Another was the Pythagorean philosopher Apollonius of Tyana, whose journey to India passed through the Caucasus. The mountains form the backdrop to a conversation between Apollonius and his travelling companion Damis. Their dialogue takes place 'as they were passing over the summit of the mountain on foot, because it was steep': κορυφὴν δ᾽ ὑπερβάλλοντες τοῦ ὄρους καὶ βαδίζοντες αὐτὴν, ἐπειδὴ ἀποτόμως εἶχεν. It begins with Apollonius asking his companion to confirm that they are in fact crossing a mountain before he asks:

> ἔχεις οὖν εἰπεῖν, ὦ Δάμι, ὅ τι ξυνῆκας τοῦ θείου βαδίζων ἀγχοῦ τοῦ οὐρανοῦ;[123]
>
> Can you then tell me, Damis, what you have gathered about the Gods from walking so close to the heavens?

Damis' reply is straightforward: οὐδὲν, ἔφη, 'nothing, he said'. But Apollonius pushes his colleague on the matter:

> (ἐχρῆν) ἐπὶ μηχανῆς τηλικαύτης καὶ θείας οὕτως ἑστηκότα περί τε τοῦ οὐρανοῦ σαφεστέρας ἤδη ἐκφέρειν δόξας περί τε τοῦ ἡλίου καὶ τῆς σελήνης, ὧν γε καὶ ῥάβδῳ ἴσως ἡγῇ ψαύσειν προσεστηκὼς τῷ οὐρανῷ τούτῳ.[124]
>
> You ought, when you are on a platform so large and divine as this, to produce more accurate ideas of the heaven and about the sun and moon, since you think, I suppose, that you will even touch them as you stand here as close to the heavens.

They conclude that ascending a mountain—however high—does not avail the traveller of any greater knowledge about the heavens. But during their discussion, Damis does refer to a number of thinkers who had tried this method of gathering

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[122] Petr., *Sat.,* LXXXVIII. Eudoxos is named as one among a list of men who dedicated their lives to virtue and discovery.
[123] Philostr. *VA.*II.5. The text of Philostratus' *Life of Apollonius of Tyana* follows that of P. Jones' Loeb edition (2005-6), which is in turn based on C. L. Kayser's Teubner edition (1870-1).
[124] Philostr. *VA.*II.5.

knowledge, proving that this idea of the mountain was at least wide-spread, even if not effective:

> (ἀκούων) τὸν μὲν Κλαζομένιον Ἀναξαγόραν ἀπὸ τοῦ κατὰ Ἰωνίαν Μίμαντος ἐπεσκέφθαι τὰ ἐν τῷ οὐρανῷ, Θαλῆν τε τὸν Μιλήσιον ἀπὸ τῆς προσοίκου Μυκάλης, λέγονται δὲ καὶ τῷ Παγγαίῳ ἔνιοι φροντιστηρίῳ χρήσασθαι καὶ ἕτεροι τῷ Ἄθῳ. [125]
>
> (I hear) that Anaxagoras of Clazomenae observed the heavens from the Mimas mountain in Ionia and that Thales of Miletus did the same from his neighbouring Mycale and some others are said to have used Pangaeus and Athos as a spot for contemplation.

Thinkers did not just go to the mountains to look up to the stars, however. Pliny the Elder, in a passage praising the ancients' dedication to investigation of the natural world, uses the mountain as an example of the lengths to which his predecessors would go to discover new roots and plants:

> *Culmina quoque montium invia et solitudines abditas omnesque terrae fibras scrutati invenere, quid quaeque radix polleret, ad quos usus herbarum fila pertinerent*. [126]
>
> We find them climbing by inaccessible paths to the summit of mountains, penetrating to the heart of wilds and deserts, and searching into every vein and fibre of the earth: so they discovered what the powers of every root are, and what are the uses of the fibres of herbs.

This side of the mountain's image in antiquity was one that Renaissance and Early Modern writers would later appreciate in particular. Such is the majority of the texts dealing with natural scientific enquiry in the mountains among the pieces which will be examined in the following chapters, that the importance of Pliny's reference to this kind of investigation here deserves to be underlined, even at this early stage.

Simler dedicated five chapters to the resources that the Alps provided in the *De Alpibus Commentarius: De Alpinis Aquis; De Crystallo et Item de Metallis; De*

[125] Philostr. *VA*.II.5.
[126] Plin. *NH.* XXV.1.

Arboribus Alpinis; De Alpinis Fructibus et Herbis and *De Animalibus Alpinis*.[127] Simler draws heavily on the classical tradition to support his ideas about the resources available in the Alps.[128] But in *De Alpinis Fructibus et Herbis*—the longest and most detailed of Simler's chapters on mountain resources—the knowledge of the ancients is combined with that of Simler's Early Modern contemporaries to create a list of noteworthy plants that can be found in the Alps:

> *Sed non tantum pascuas herbas Alpes pecoribus suppeditant, verum multa plantarum genera, rara et non facile alibi obvia, in Alpibus inveniuntur, partim a veteribus descripta, partim adhuc antiquo nomine et certa descriptione destituta. Quare ne hanc partem prorsus intactam praetereamus, subiiciemus nomina aliquot Alpinarum herbarum et fruticum, quae a doctissimis viris et summis amicis nostris, nunc in Domino quiescentibus, Conrado Gesnero, Ioanne Fabricio et Benedicto Aretio adnotata sunt.*[129]
>
> But the Alps not only supply pasturing plants for the herds, many types of plants are also found in the Alps which are rare and not easily found elsewhere. A part of these have described by the ancients, but another part lacks an ancient name and a precise description. In order not to pass over this second part absolutely unmentioned, I will add the names of some Alpine plants and shrubs which have been recorded by Conrad Gesner, Joannes Fabricius and Bendictus Aretius, most learned men and great friends of mine, who now rest in peace with God.

The association between the Alps and botany was of particular significance for the later change in attitude towards the mountain.[130] The naturalists who went into the Alps to collect rare specimens began to develop a sensitivity for their surroundings. For some authors—as we will see below in *Geographia, Prospectus, Pictura*—this feeling grew into a fuller appreciation of the mountain, independent of their original

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[127] Simler, *De Alpibus Commentarius*, 121-134. These sections on the mountains' resources make up the final five chapters of the work.

[128] Simler cites, for example, Strabo (IV.6.9), Ptolemy (II.11.4), Pliny (*NH.* IV.12) and Tacitus *German.* 11 for evidence about the sources of Europe's rivers in the Alps in *De Alpinis Aquis* (*De Alpibus Commentarius,* 123-4). He refers to two epigrams of Claudian in the chapter *De Crystallo et item de Metallis*. For mountain trees, Simler refers to Theophrastus (*Hist. plant.,* II.4; III.1), for example, as well as to Homer (*Il.*, XI.256) and Vergil (VIII.661-2). On Alpine animals Simler cites Strabo (IV.6.10) and Pliny (*NH.* VIII.37; X.22).

[129] Simler, *De Alpibus Commentarius*, 128-129. Conrad Gesner died in 1565, Fabricius in 1566 and Aretius in the year of the *Commentarius'* first publication, 1574. We will return to their descriptions of the Alps they climbed and the plants they found there in *Geographia, Prospectus, Pictura* below.

[130] M. Korenjak, "Pulcherrimus Foecundissimusque Naturae Hortus. Berichte über botanisch motivierte Bergbesteigungen im 16. Jahrhundert," *NlatJb*, 2013, 197–218.

botanical interests. In the passage above, Simler stresses the connection between the mountain landscape and its extraordinary resources.

The idea of the mountain as a storehouse or a source of raw materials, plants and other resources was widespread, too, in the classical tradition. Aetna, for example, is represented as a type of natural cistern for the Cyclops in Theocritus:

> . . . ψυχρὸν ὕδωρ, τό μοι ἁ πολυδένδρεος Αἴτνα
> λευκᾶς ἐκ χιόνος ποτὸν ἀμβρόσιον προΐητι.[131]
>
> . . . cold water, which well-wooded Aetna
> sends down for me as a divine drink from her white snow.

Among the most common raw materials associated with the mountain is wood. It is worthy of note that Aetna is referred to as πολυδένδρεος in Theocritus' passage above, even when the main focus of the passage is the snow which the mountain preserves at its summit.[132] Numerous mythological references to the use of mountain wood appear throughout classical literature. The timber for the Argo, for example, came from Mount Pelion:

> μηδ᾽ ἐν νάπαισι Πηλίου πεσεῖν ποτε
> τμηθεῖσα πεύκη, μηδ᾽ ἐρετμῶσαι χέρας
> ἀνδρῶν ἀριστέων οἳ τὸ πάγχρυσον δέρος
> Πελίᾳ μετῆλθον.[133]
>
> That the cut pine had not fallen in the valleys of Pelion
> And not furnished the hands of the heroes to row
> Who went after the Golden Fleece
> At Pelias' command!

The wood for the funeral pyre of Achilles' comrade Patroclus was said to have come from Mount Ida. And the timber for the construction of the Trojan horse was πεύκη οὐρείη 'mountain pine'.[134]

The mountain was also a place for grazing animals. For this reason, the shepherds of classical literature and myth are frequently to be found on their slopes.

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[131] Theoc., *Cyclops,* 47-8.
[132] Young, "The Mountains in Greek Poetry," 81.
[133] Eur. *Med.,* 3-6. See also Catul. LXIV,1-7, for example, for a Roman equivalent: *Peliaco quondam prognatae uertice pinus/ dicuntur liquidas Neptuni nasse per undas . . .*
[134] Hom. *Il.,* XXIII.117; Eur., *Tro.,* 534.

Paris grew up on Mount Ida after having been exposed there as an infant. He returned to the city carrying the name Alexander, which Pseudo-Apollodorus attributes to his careful protection of the flocks as a shepherd.[135] Hesiod, too, for example, was shepherding his flocks as the Muses came to teach him to sing.[136]

The landscapes of Vergil's *Eclogues* are rarely static and frequently present a mixture of ideas and places. But while the great Roman author seems to have had no specific real landscape in mind, certain recurring features give an identifiable character to the bucolic world of his shepherds. In his influential formulation of the *locus amoenus*—an idea closely bound to Vergil's bucolic poetry—Curtius formulates the idea thus: 'a beautiful, shaded natural site' and that 'its minimum ingredients comprise a tree (or several trees), a meadow, and a spring or brook.'[137] The mountain does not figure in this account of the *locus amoenus*—as well the preceding account of the mountain's horror would suggest it should not. Nonetheless, the mountain does have a prominent role to play in shaping the landscape of Vergil's shepherds: in the first Eclogue Meliboeus and Tityrus are situated in a landscape that contains mountains and cliffs. Meliboeus laments the loss of his lands and flocks. He remembers watching over them on the cliffs:

> *Ite meae, felix quondam pecus, ite capellae.*
> *Non ego vos posthac, viridi proiectus in antro,*
> *dumosa pendere procul de rupe videbo*.[138]
>
> Go, once happy flock, go my goats!
> No longer, while led down in a green cave,
> Will I watch you balancing on a thorny cliff in the distance.

The first Eclogue closes with the image of shadows stretching out from the mountain peaks surrounding the shepherds' world:

> *Et iam summa procul villarum culmina fumant,*

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[135] Apollod. III.12.5: γενόμενος δὲ νεανίσκος καὶ πολλῶν διαφέρων κάλλει τε καὶ ῥώμῃ αὖθις Ἀλέξανδρος προσωνομάσθη, λῃστὰς ἀμυνόμενος καὶ τοῖς ποιμνίοις ἀλεξήσας . . .

[136] For the connection of hte shepherd to the mountain see: K. Smolak, "Der Gipfelsieg. Geistiges Bergsteigen in lateinischen Texten der Spätantike und des Mittelalters," in *Gipfel Der Zeit. Berge in Texten aus fünf Jahrtausenden*, ed. W. Kofler, M. Korenjak, and F. Schaffenrath, Paradeigmata 12 (Freiburg i.Br., Berlin, Vienna, 2010), 64. Hesiod's meeting with the Muses see *Theog.* 1-8.

[137] Ernst Robert Curtius, *European Literature and the Latin Middle Ages* trans. Willard R. Trask (New York, 1953), 193–95.

[138] Ver. *Ecl.,* I.75-77.

maioresque cadunt altis de montibus umbrae.[139]

Now the gables of the villas are smoking in the distance,
And longer shadows fall from the lofty mountains.

In the following Eclogue Two the scene for Corydon's lament of his unrequited love for Alexis is set among the forests and the mountains:

. . . ibi haec incondita solus
montibus et silvis studio iactabat inani:[140]

. . . there alone he hurled these unrefined lines
at the mountains and woods in hopeless devotion:

Indeed, in the fifth Ecolgue—as Menalcas praises his companion in music making—he claims the mountains to belong to the shepherds. They are a part of the bucolic world: *montibus in nostris solus tibi certat Amyntas*, 'among our mountains' he says 'only Amyntas competes with you.'[141] This connection between the mountains and the shepherds and to the pastoral world in general is reiterated in the final Eclogue when sad Gallus looks back fondly at the bucolic sphere:

Tristis at ille: Tamen cantabitis, Arcades, inquit,
montibus haec vestris, soli cantare periti
Arcades.[142]

He replied sadly: But you will sing this, Arcadians, he said,
To your mountains, only the skilfull Arcadians,
Know how to sing.

Finally, the mountain was the home of another type of resource, namely game. It was also the place where men went to hunt and to challenge themselves against these animals and the mountainous terrain itself. We have already noted the accounts of mythical hunting scenes on Cithaeron turned on their heads.[143]

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[139] Ver. *Ecl.*, I.83-4.
[140] Ver. *Ecl.,* II.4-5.
[141] Ver. *Ecl.*, V.8.
[142] Ver. *Ecl.,* X.31-33.
[143] See above the sub-chapter iv) *The Wild Mountain Outside* and in particular n.50: Eur. *Ba.,* 1290-6 for the results of the Bacchants' inverted hunting.

Pentheus was hunted and killed by his mother and her bacchants, while Actaeon was torn to pieces by his own hunting hounds. Numerous ancient texts also, however, show that hunting really did happen on the mountain. Pausanias says, for example:

> παρέχεται δὲ καὶ δι᾽ ὅλου τὸ Ταΰγετον τῶν αἰγῶν τούτων ἄγραν καὶ ὑῶν, πλείστην δὲ καὶ ἐλάφων καὶ ἄρκτων.[144]
>
> The whole of Taygetus offers hunting of these [previously mentioned] goats and boar, as well as plentiful deer and bear.

Back in the world of myth, there are the two hunting scenes in the Aeneid which take place in rocky and mountainous terrain. The first occurs as Aeneas has arrived on the shores of Carthage. He mounts a crag to look for any signs of the rest of his fleet and notices three stags leading a group of seven others. He kills them all as food for his men.[145] The second scene takes place as Aeneas and Dido go out hunting together before disappearing into a cave to shelter from a great storm:

> *Postquam altos ventum in montis atque invia lustra,*
> *ecce ferae, saxi deiectae vertice, caprae*
> *decurrere iugis; . . .*[146]
>
> When they reach the mountain heights and pathless haunts,
> Look! the wild goats, disturbed on their stony summits,
> course down the slopes: . . .

x) The Mountain in the Classical Tradition: Concluding Remarks

These are the ingredients, then, which make up the image of the mountain in the classical tradition. It was a place associated with the Gods and often situated outside the usual boundaries of civilized life. This marginal location—as well as its physical properties—also made the mountain an ideal frontier or barrier. Its harsh climate, terrain, and living conditions produced correspondingly tough people. Many of these associations went together to create a terrible and frightening image

[144] Paus. III.20.4.
[145] Ver. *Aen.,* I.180-194.
[146] Ver. *Aen.,* IV.151-3.

of the mountain especially in authors where such a landscape makes a fitting backdrop to their narratives—as is the case with Livy and Silius Italicus.[147] Nonetheless, the mountain contained a wealth of raw materials and was, in some cases, a place suited to the herds and their shepherds. It could contain secrets too and provide access to information which aroused the curiosity of men interested in wonders of the earth and skies.

The mountain was not, however, the place of beauty it is today. Some of its features could certainly be beautiful; a shaded cliff or forest, the white snow or a refreshing fountain. But the mountain itself is rarely, if ever, thought to have positive aesthetic qualities in classical literature.

One classical author is, nevertheless, said to have recognized the beauty of the mountain: Lucretius.[148] This link is tenuous, however. Much of the secondary literature on the topic fails to cite precise passages of the Roman poet's *De rerum natura* that really paint a picture of the mountains as beautiful or even pleasing to the eye. Scholars seem content to state that of all the Roman writers only Lucretius appreciates mountain beauty. They either then cite another secondary source or mention his passages on the beauty of clouds. One author even goes as far as to confound appreciation of the mountains *per se* with appreciation of the clouds: "he indulges in climbing the mountains for their own sake, 'to watch the fleeting clouds.'"[149] Lucretius' verses about the clouds' aesthetic qualities themselves are ambivalent:

> *. . . Ut nubes facile interdum concrescere in alto*
> *cernimus et mundi speciem violare serenam*
> *aera mulcentis motu. Nam saepe Gigantum*
> *ora volare videntur et umbram ducere late,*
> *interdum magni montes avulsaque saxa*
> *montibus anteire et solem succedere praeter,*
> *inde alios trahere atque inducere belua nimbos.*[150]
>
> . . . As we watch the clouds smoothly grow thick on high

[147] See above *The Horror of the Mountain* n.83 and n.86, for example: Liv. XXI.32.7; Sil. *Pun.,* III.477-486.
[148] See, for example: W. Kirchner, "Mind, Mountain, and History," *JHI* 11 (1950), 416.
[149] W. Kirchner, "Mind, Mountain, and History," 416.
[150] Lucr. IV.134-140. For further passages on the clouds see VI.173-203 and 459-469. The section at lines 173 makes a comparison of the clouds and the mountains. Neither of the two natural phenomena comes out of the description in a particularly positive light.

And ruin the serene appearence of the world,
Stroking the air with their movements. For often are seen
Giants' faces flying far along
Bringing shadow and sometimes mighty mountains
And broken mountain rocks going in front of
And crossing the sun,
Then a brute seems to drag and lead on other storm clouds.

Furthermore, Lucretius includes the mountains in a description of the faults of the earth's design:

Quod si iam rerum ignorem primordia quae sint,
hoc tamen ex ipsis caeli rationibus ausim
confirmare aliisque ex rebus reddere multis,
nequaquam nobis divinitus esse paratam
naturam rerum: tanta stat praedita culpa.
principio quantum caeli tegit impetus ingens,
inde avidam partem montes silvaeque ferarum
possedere, tenent rupes vastaeque paludes
et mare, quod late terrarum distinet oras.[151]

But even if I did not know what the primary particles were,
I would dare to assert this based on the workings
Of the heavens and to repeat it from many other examples,
That in no way has the nature of things been prepared
For us by a divinity: there are so many flaws.
First, as far as the huge reach of the sky covers,
A greedy portion is taken from it by the mountains
And the forests of wild beasts; the cliffs and vast swamps
Possess it, as well as the sea, which keeps the shores far apart.

The part of the earth's surface they take up is called *avidam*, and they are one part of the *culpa* of the structure of the earth. There is little reason to talk of mountain appreciation in these lines.

More than the explicitly negative opinions on the mountains in classical literature, it is the simple lack of interest in the mountain landscape that the careful reader of these ancient texts takes away from his or her search for mountain appreciation in antiquity. The dangers of an *argumentum a silentio* are clear. But to

[151] Lucr. V.195-203.

summarise the absence of mountain scenery—let alone its appreciation—in the classical authors that we have already witnessed, it will suffice to mention three big names: Catullus, a native of Verona and inhabitant of Sirmio on Lake Garda with expansive views of the Alps, never describes a mountain scene in his *Carmina*; Vergil was born in the foothills of the Alps, near the Apennines and has little praise for the mountain in his work either; Horace—to end our account of the mountain in the Classics where we began—only picks out very few mountains for individual treatment, even though he was often to be found in retreat at his villa in the Sabine hills. When he does describe the mountain—as in the Soracte Ode—many of the ideas frequently mentioned in connection with the mountain throughout Greek and Roman literature are skilfully brought together. Aesthetic appreciation is not one of them.[152]

α. i) The Mountains of the Bible: Introduction

The ideas and literary concepts of the Latin writers in the Renaissance and Early Modern Period were not informed solely by the Classics. As Christians—regardless of their confession—the words of the Bible played an essential role in developing their literary attitudes. The Latin Vulgate was the most widely read version of the Bible during the Renaissance. Jerome's translation was—as it still is—the Catholic Church's official scriptural text. In 1454 it became the first book ever printed.[153] The significance of the Vulgate for Humanism—both as a dogmatic authority and as a text in its own right—is indicated by the enormous amount of scholarship that contributed to establishing the Latin text and the advances in learning and criticism that this study generated.[154] The work of philologists brought the text of the Latin Vulgate under close scrutiny and specific passages are to be found at the centre of heated debate. The extent to which the Latin words of the Vulgate Bible permeated the writing and minds of authors in the Renaissance and Early Modern

[152] Catul. XXXI details his returning home to the villa at Sirmio. Vergil's epitaph located in Naples has him born in Mantua in modern-day Lombardy: *Mantua me genuit; Calabri rapuere; tenet nunc/ Parthenope. Cecini pascua, rura, duces.* Horace was gifted his villa in the Sabine hills by Maecenas and he describes its location in *Epistles* I.10. Aesthetic appreciation is absent from these encounters with mountainous scenery.

[153] The Gutenberg Bible was printed by Johannes Gutenberg in Mainz, Germany. Preparation for the book began soon after 1450 and the first editions were available in 1454.

[154] L. E. Rodríguez San Pedro Bezares, "Humanismo y Renacimiento Cultural," in *HMU* ed. Alfredo Floristán (Barcelona, 2005); A. Hamilton, "Humanists and the Bible," in *The Cambridge Companion to Renaissance Humanism*, ed. Jill Kraye (Cambridge, 1996), 102–108.

Period cannot, therefore, be underestimated.[155] The following passages on the mountains in the Bible did not, however, often come under deep or serious debate. Moreover, if they were the object of critical enquiry, the ensuing discussion did not focus on the mountains they mention.[156]

The image of the mountains in the Bible is ambiguous and multi-faceted. It differs in some respects from the image of the mountain in Classical literature skteched above, but agrees with it in many others. One respect in which the two traditions do clearly agree is that the overall image of the mountain in the Bible is unenthusiastic. This is perhaps because the mountains are much more prominent in the awe-inspiring and occasionally fearful landscape of the Old Testament than in the New.[157]

α. ii) The Mountain Brought Low

The mountain is frequently used in the Old Testament to illustrate humility, God's dominance, the arrogance of men, or difficulties that need to be overcome. In this sense the mountain is pictured as being laid low, crushed, swept aside—or even melted—by the power of the Lord. In Isaiah 4:40 the mountain is used as a symbol for hindrances and difficulties. The path will be cleared before the arrival of God:

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[155] Hamilton, "Humanists and the Bible," 109–113. The famous *Comma Johanneum* is one example of a particular passage that was much discussed. Debate centres around a phrase at 1 John 5:7-8.

[156] For the sake of consistency the text of the Bible cited in this chapter follows Fr. Michael Hetzenauer's text of the *Biblia Sacra Vulgatae Editionis Sixti Quinti Pontificis Maximi iussu recognita atque edita,* the 'Clementine Vulgate'. The edition was originally commissioned after the Council of Trent, when the Vulgate was confirmed as the authorized text of the Catholic Church. The work went through three editions in the 16th century before a final text was reached in 1598. This was the last official print of the Bible from the Vatican. In 1904 Fr. Hetzenauer produced an edition compiled from the three first 16th century editions. Hetzenauer's text, then, represents the *état de recherche* during this thesis' period of study and it specifically takes into account the product of the textual work undertaken by the Humanists. Furthermore, the text of the Clementine Vulgate remains familiar to many today. For more on the history of Bible editions see: F. J. Crehan (S.J), "Chapter VI: The Bible in the Roman Catholic Church from Trent to the Present Day," in *The Cambridge History of the Bible: Volume 3, The West from the Reformation to the Present Day*, ed. S. L. Greenslade (Cambridge, 1975), 199–212.

[157] The quotations from the Bible below are untranslated. This is firstly on account of the nature of the text itself, which is often less complex than the Classical Latin treated above, and secondly because the verses of the Bible are so widely known and there exist numerous authorised translations.

> *Omnis vallis exaltabitur, et omnis mons et collis humiliabitur, et erunt prava in directa, et aspera in vias planas.*[158]

In this passage the mountain plays the straightforward role of an obstacle. It is mentioned alongside other obstructions such as winding tracks and rocky roads. More loaded passages, however, follow. Further on in Isaiah, God himself speaks and intimidates his enemies, threatening to exert his power over nature:

> *Desertos faciam montes, et colles, et omne gramen eorum exiccabo: et ponam flumina in insulas, et stagna arefaciam*.[159]

The mountains can also, however, crumble without any direct force from God. An image that frequently recurs the Old Testament is that of the mountains melting and vanishing in God's presence:

> *Montes, sicut cera fluxerunt a facie Domini: a facie Domini omnis terrae.*[160]

Another simliar example occurs at Judges 5:5:

> *Montes fluxerunt a facie Domini, et Sinai a facie Domini Dei Israel.*[161]

The mountain can also be associated with the enemies of God, or the enemies of the men He is supporting:

> *Esau autem odio habui. Et posui montes eius in solitudinem, et hereditatem eius in dracones deserti.*[162]

In this example at Isaiah 41:15, God speaks to Jacob giving him the courage to face his foes, who are imagined as mountains:

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[158] Isa. 4:40.
[159] Isa. 42:15.
[160] Ps. 97:5.
[161] Judg. 5:5. For further examples of the mountains melting away before the power of God see *inter alia*: Is. 64:1; Is. 64:3; Rev. 20:11; Judg. 5:5; Mic. 1:4; Nah.1:5.
[162] Mal. 1:3.

> *Ego posui te quasi plaustrum triturans novum, habens rostra serrantia: triturabis montes, et comminues: et colles quasi pulverem pones.*[163]

Babylon is referred to as a mountain when God promises to destroy the city:

> *Ecce ego ad te mons pestifer, ait Dominus, qui corrumpis universam terram: et extendam manum meam super te, et evolvam te de petris, et dabo te in montem combustionis.*[164]

The mountains, then, can frequently be found set in opposition to God, his peoples or their goals. Their natural height and size makes them fitting objects against which to picture and demonstrate God's might.

α. iii) The Mountains and God

The mountains do, however, have an established and time-honoured connection to God throughout the Bible. They were present in the early days of the earth:

> [19] *Et aquae praevaluerunt nimis super terram: opertique sunt omnes montes excelsi sub universe caelo.* [20] *Quindecim cubitis altior fuit aqua super montes, quos operuerat.*[165]

God was responsible for forming the mountains: *Quia ecce formans montes, et creans ventum. . . [Dominus Deus]*.[166] He keeps them steady and invests them with their strength: *Praeparans montes in virtute tua, accinctus potentia*.[167] And they served as places for divine worship, as God instructed Abraham:

> *Ait illi: Tolle filium tuum unigenitum, quem diligis, Isaac, et vade in terram visionis: atque ibi offeres eum in holocaustum super unum montium quem monstravero tibi*.[168]

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[163] Isa. 41:15.
[164] Jer. 51:25.
[165] Gen. 7:19-20.
[166] Am. 4:13
[167] Ps. 65:7. See also Psalms 95:4.
[168] Gen. 22:2.

Certain mountains similarly play prominent roles in important biblical scenes. God communicates with Moses on Mount Sinai, for example, as the Israelites are camped at its feet. Moses goes up the mountain to receive instructions from God. And God even descends onto the mountain to reveal Himself and talk to His people:

> *Totus autem mons Sinai fumabat: eo quod descendisset Dominus super eum in igne, et ascenderet fumus ex eo quasi de fornace: eratque omnis mons terribilis*.[169]

It is also on Mount Sinai that Moses receives the Ten Commandments. After spending forty days and nights on the mountain, he instructs his people on fulfilling the requirements of the covenant.[170]

Mount Carmel is the scene of the contest between the prophet Elijah and prophets of Ba'al to prove which is the true god. The scene finishes with the Jewish God torching the sacrifice that was at the centre of the contest, as well as the surrounding landscape. Jesus' transfiguration in front of three of his apostles takes place on a mountain as well, while Mount Zion became the earthly dwelling of God himself. [171]

Despite these associations of the mountain with the true God, however, they are also frequently places of idolatrous worship. In Deuteronomy 12:2, for example, the mountains are singled out as places for worship of false gods:

> *Subvertite omnia loca, in quibus coluerunt gentes, quas possessuri estis, deos suos super montes excelsos, et colles, et subter omne lignum frondosum.*[172]

The mountain, then, can be said to represent power in the Bible at a fundamental level. This could be a power against which God demonstrates His own superior might. They could also be a disruptive and obstructive power, or God could invest the mountains with His own strength. Worshippers of the Christian God or His early competitors chose—or were instructed—to use the mountains as places to celebrate the power of their deities. While one might expect the mountain to appear

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[169] Ex.19:18.
[170] The account of the Israelites and Moses on Mount Sinai runs from Ex. 19:3 to Moses' final climb of the mountain at Ex. 34:28.
[171] The account of Elijah's contest is at I Kings 18. Jesus transforms *in monte excelso* in the Synoptic Gospels at Mt. 17:1-8, Mk. 9:2-8 and Lk. 9:28-36. Mount Zion is said to be the terrestrial home of God at Ps. 68:29; 74:2 and Isa. 8:18; 18:7.
[172] Deut. 12.2.

as an imposing and fearful when it is set against God, it is noteworthy that it largely retains this characteristic even when it is the scene of God's glory. An example of a mountain that preserves these fearful qualities even when it is a place chosen by God is Mount Sinai. Sinai becomes a *mons terribilis* when God reveals himself upon it at Exodus 19:18.

Simler recognised the association between the mountain and God in the Christian tradition, just as he recognised that the mountain was a significant place for the Gods of the Classical pantheon.[173] Indeed, he saw the connection between high places and the Gods in both cultures as part of a shared feeling of awe and respect for the mountains:

> *Itaque prisci mortales excelsa loca divino cultui aptissima existimarunt, quod hominibus inde admiratio non vulgaris incuteretur: existimabant etiam vulgo loca tam eximia praesens numen habere. Neque tantum falso idolorum cultui dediti, sed populi Dei progenitores Abrahamus ipse, Isaacus et Iacobus aliique veteres patres in montibus Deo vero sacra fecerunt.*[174]
>
> So, the early humans thought that high places were most suited to cults of the Gods, for it was not ordinary admiration that the mountains instilled in those men: they commonly believed that divine power was present in these high places. Nor were they only given over to the false cults of idolaters; the ancestors of God's people: Abraham himself, Isaac, Jacob and other patriarchs made sacrifices to the true God on the mountains.

α. iv) Mountains of Abundance

The mountains in the classical literary tradition, although associated with the Gods and certainly mighty, do not *represent* power in the same way that they do in Bible. They can be called, as Lucretius puts it, *magni montes avolsaque saxa*, they can set the scene for godly struggles—as in the Prometheus Bound—but rarely are the mountains depicted as powerful in themselves. They are never directly pitted against divine power, except perhaps as weapons.[175] One aspect that the classical and

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[173] For Simler on association between the mountain and the Classical Gods see the sub-chapter iii) *The Mountain and the Gods* above.
[174] Simler, *De Alpibus Commentarius,* 29.
[175] For Lucretius' *magni montes avolsaque saxa*: Lucr. IV.139. See n.106 above. For the powerful mountainous landscape of the Prometheus Bound see above n.33. Mountains are used as weapons

biblical mountains do share, however, is their abundance in raw materials of various types and their use as a place for pasturage.

The association of the mountain with the forest can be found throughout the Old Testament. Solomon, for example, sends an army of slaves up a mountain to cut timber for his palace:

> [8] *Sed et ligna cedrina mitte mihi, et arceuthina, et pinea de Libano: scio enim quod servi tui noverint caedere ligna de Libano, et erunt servi mei cum servis tuis* [9] *ut parentur mihi ligna plurima. Domus enim, quam cupio aedificare, magna est nimis, et inclyta.*[176]

Mount Lebanon appears again as a source of timber at II Kings 19:23, when the prophet Isaiah explains to King Hezekiah why he is suffering God's disapproval:

> *In multitudine curruum meorum ascendi excelsa montium in summitate Libani, et succidi sublimes cedros eius, et electas abietes illius.*[177]

The mountains also offered a variety of other plants and herbs: *aperta sunt prata, et apparuerunt herbae virentes, et collecta sunt foena,* as well as stone: *fueruntque Salomoni septuaginta millia eorum qui onera portabant, et octoginta millia latomorum in monte [Libano]*.[178] Game, similarly, was also available: *sicut persequitur perdix in montibus*.[179]

The image of the flock and shepherd, an important one in Christian thinking, can be found in a mountainous landscape.[180] This can be shepherding of real flocks as in Exodus 3:1:

> *Moyses autem pascebat oves Iethro soceri sui sacerdotis Madian: cumque minasset gregem ad interiora deserti, venit ad montem Dei Horeb.*[181]

But it can also be the symbolic shepherding of God's people:

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when, for example, Typhon hurls a mountain at Zeus before the father of the gods buries him underneath it. For this story, see: Hes. *Th.,* 820-868.

[176] II Chr. 2:8-9.

[177] II Kings 19:23.

[178] Prov. 27:25. For vines and other plants, for example: Jer. 31:5. For stone: I Kings 5:14-17.

[179] Game: I Chr. 12:8. Wild animals: Song. 4:8.

[180] For God as the shepherd see *inter alia*: Ps. 80:1; Gen. 49:24; Eccl. 12:11. For Gods people as the flock see *inter alia:* Ps. 95:7; Ps. 79:13; Ps. 100:3; Jer. 50:7; Ezek. 34:31; I Pet. 5:2; Lk. 12:32; Acts. 20:28-29

[181] Ex. 3.1.

> *Et ille ait: Vidi cunctum Israel dispersum in montibus, quasi oves non habentes pastorem.*[182]

Absent here from the Bible in comparison with the classical image, is the pastoral feeling familiar from the *Idylls* of Theocritus or Vergil's *Eclogues*. The biblical image of the sheep and the shepherd—of God and his people—is present in its place but the mountain setting does not add further depth or complexity to the symbolism of God as *pastor.*

α. v) The Protective Mountain

Another of the mountain's roles that the classical literary tradition and the Bible share is that of the mountain as a defence. This protective role is often a geographical and physical fact, and therefore many of features already mentioned above in this respect are to be found throughout the Bible. The mountains could protect a country and represent the protection of its people:

> [1] *Qui confidunt in Domino, sicut mons Sion: non commovebitur in aeternum, qui habitat* [2] *in Ierusalem. Montes in circuitu eius: et Dominus in circuitu populi sui, ex hoc nunc et usque in saeculum.*[183]

They could also serve as a refuge, as in this passage when Lot is warned of the impending destruction of Sodom:

> *. . . Salva animam tuam: noli respicere post tergum, nec stes in omni circa regione: sed in monte salvum te fac, ne et tu simul pereas*.[184]

The mountains could also function as a boundary:

> *Et sepelierunt eum in finibus possessionis suae in Thamnathsare in monte Ephraim, a Septentrionali plaga montis Gaas.*[185]

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[182] I Kings 22:17.
[183] Ps. 125:1-2.
[184] Gen. 19:17.
[185] Judg. 2:9.

α. vi) The Eternal Mountain

Another image associated with the mountain throughout the Bible is that of age, steadiness, and stability. The mountains are perpetual and everlasting. Before his death, Moses promises to Joseph all the best things that the earth and skies can offer:

> [13] . . . *De benedictione Domini terra eius, de pomis caeli, et rore, atque abysso subiacente.* [14] *De pomis fructuum solis ac lunae.* [15] *De vertice antiquorum montium, de pomis collium aeternorum.*[186]

In the prophecy of Habakkuk the mountains are called eternal, although they will yield to the power of God:

> *[Deus] Stetit, et mensus est terram. Aspexit, et dissolvit gentes: et contriti sunt montes saeculi. Incurvati sunt colles mundi, ab itineribus aeternitatis eius.*[187]

As early as the first book of the Bible the mountains have this association with eternity. At Genesis 49:26 Joseph is told that the blessings his father received are greater than the 'bounty of the eternal hills', *desiderium collium aeternorum*.[188]

This *topos* of age and permanence would become a central part of the Early Modern debate over the origins, meaning and purpose of the mountains. As natural philosophers looked for elements of God's design in their natural surroundings, they also searched for physical remnants and traces of biblical events. Their approach attempted to explain natural phenomena using reason and scripture combined in varying quantities. One such theorist, who found himself at the centre of a scientific and theological controversy that has taken his name in modern studies, was Bishop Thomas Burnet. In 1681 he published the *Telluris Theoria Sacra*. An English translation of the original Latin appeared three years later in 1684. The work provided a speculative explanation of the beginning of the earth; how God created the globe and how it came to look the way it does in modern times.[189]

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[186] Deut. 33:13-15.
[187] Hab. 3:6.
[188] Gen. 49:26.
[189] Burnet's *Theoria Sacra*, the 'Burnet Controversy' (see Nicolson, M. H., *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite* (Ithaca, NY, 1959) and other physico-theological works which reveal how and why attitudes towards the mountains began to change

The mountains came to the centre of discussion when Burnet attempted to explain the biblical Flood using physico-theological methods:

> *Non potui non audacter inferre Diluvium alio modo contigisse quam quo vulgo intelligi et explicari soleat.*[190]
>
> I have only been able to boldly conclude that the Flood happened in a different way from how it is usually understood and explained.

He theorized that the world had been flat, smooth and oval before the flood had ruptured the earth's crust, rendering its surface broken and jagged:

> *Forma telluris primae, sive primis orbis habitabilis erat aequabilis, uniformis, continua, sine montibus et sine hiatu maris.* [191]
>
> The shape of the first earth, or the first inhabitable globe was even, uniform, unbroken and without mountains or the gaps of the sea

This made the mountains, for Burnet at least, the ruins of the earth. The earth's previously pristine form had been destroyed when God punished mankind and the globe now bore the scars of the retribution: *Fractus orbis est, collapsus est, et nos habitamus ipsius ruinas* 'the world has been broken, it has collapsed and we inhabit its ruins'.[192] The mountains in particular were the ugly reminders of man's downfall and Burnet made full use of his considerable rhetorical skill in describing how much they horrified and repulsed him:

> *Ad formam montium singulorum quod spectat, nihil magis incertum, inconditum aut perturbatum; ut solent esse rudera, omnium formarum et figurarum sunt, praeter regularium; moles praeruptae et confractae, nullus modus, nulla ratio*

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during the period in Latin will be the focus of the second part of the thesis *Theologia et Philosophia Naturalis*. For Burnet in particular see subchapter viii) *The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy.*

[190] Burnet, *Telluris Theoria Sacra,* 3rd edition 1702 Book I: 12.

[191] Burnet, *Telluris Theoria Sacra*, Book I: 36.

[192] Burnet, *Telluris Theoria Sacra,* Book I: 78. The question over whether the earth itself suffered punishment from God as well as mankind after the man's fall became a topic of controversy during the Late Renaissance and Early Modern Period. If the earth itself had been punished, then the mountains would be a mark of punishment in their disfiguration and could never be strictly beautiful. The crucial verse in the Bible is Genesis 3:17. For a discussion of the controversy see: Nicolson, *Mountain Gloom and Mountain Glory,* 81-7.

> *partium, aut proportio, nulla pulchritudinis umbra, artis aut consilii nullum vestigium.*[193]
>
> As to what concerns the appearance of the individual mountains, there is nothing more doubtful, crude or confused—just as debris usually is, of all shapes and figures except regular ones—they are broken and irregular masses, there is no order, no balance among their parts nor proportion, there is not even a shadow of beauty or of art and no trace of planning.

The evidence from Bible, however, does not consistently compliment Burnet's theory. The mountains are said to have been covered by the flood, for example, in Genesis 3:19 cited above:

> *Et aquae praevaluerunt nimis super terram: opertique sunt omnes montes excelsi sub universo caelo*

And the ark itself came to rest on the top of the mountains of Armenia in Genesis 8:4. This would suggest that the mountains had been created at the beginning of the world and were a part of God's design. They could not be the ruins of a former perfect world. These were among the arguments that were made by theologians and early scientists alike in response to Burnet's *Theoria Sacra*.[194]

The primacy of the mountains in the Bible, then, became a much-discussed theme among writers and theorists in the Early Modern period. But the aesthetic element of the discussion only appeared with them; it was not a part of the biblical passages which call the mountains 'ancient', 'eternal' or which mention the mountains as part of the diluvian landscape of Noah. Authors began to think of the mountains as ugly or deformed if they believed them to be the result of a punishment from God. Correspondingly, ideas of beauty and grandeur came into the debate if the mountains were thought to have been part of God's design. Indeed, throughout the Bible no aesthetic judgment is passed on the mountains directly. They are never called *pulcher,* nor *deformis* or *foedus.*

α. vii) The Mountain's Positive Associations

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[193] Burnet, *Telluris Theoria Sacra,* Book I: 65.

[194] For an example of this response to Burnet see: Herbert, Lord Bishop of Hereford, 1685, *Some Animadversions Upon a Book Intituled the Theory of the Earth* (London): 140-1. This works is mentioned, alongside other examples, in Nicolson*, Mountain Gloom and Mountain Glory,* 259-60.

However, there are instances in scripture where the mountains have more directly positive associations than the examples mentioned so far from Classical literature or elsewhere in the Bible. The mountain forms a part of the landscape of exaltation in Isaiah when God redeems Jacob:

> *Laudate, caeli, quoniam misericordiam fecit Dominus; iubilate, extrema terrae; resonate, montes, laudationem, saltus et omne lignum ejus, quoniam redemit Dominus Iacob, et Israel gloriabitur.*[195]

And similarly they are pictured singing in Isaiah 55:12 at the promise of the coming of the Lord:

> *Quia in laetitia egrediemini, et in pace deducemini; montes et colles cantabunt coram vobis laudem, et omnia ligna regionis plaudent manu.*[196]

The mountain is also used as a comparison for the righteousness of God in Psalm 35:7: *Iustitia tua sicut montes Dei; judicia tua abyssus multa. Homines et iumenta salvabis, Domine.*

α. viii) The Mountains of the Bible: Concluding Remarks

The key facet of the mountain used in these pieces of positive association is the same as that at work in the pieces demonstrating the mountain's power in opposition to God.[197] Just as God's power can be set against the vast and potent mountains: *Montes, sicut cera fluxerunt a facie Domini. . .,* it can be compared it to them in a positive light as well: *Iustitia tua sicut montes Dei. . . .*[198]. The mountain's essential might and power is consistent regardless of whether it is used as a positive reference point or a negative one. It is the might of the mountain, then, that stands out as its fundamental attribute in the Bible. This might is occasionally associated with, but more frequently pitted against, God's own power. At the same time, the mountain is the home of the shepherd and his flock just as in classical literature. While the

[195] Isa. 44:23.
[196] Isa. 55:12.
[197] See above sub-chapter α iii) *The Mountains and God.*
[198] Ps. 97.5 see above; Ps. 35:7.

mountain's wealth of materials, as well as its defensive attributes reinforce the idea of its strength. The lack of aesthetic judgements of the mountain or mountain environments in the Biblical tradition—just as in the classical—is clear.

3. *Gaeographia, Prospectus, Pictura*

i) Introduction and Chapter Layout

This chapter explores how the Latin records of encounters with mountains and the subsequent discovery of their aesthetic qualities were intertwined with—and influenced by—contemporary practices of describing the mountain landscape in pictures and in written chorographical accounts. The discussion will draw on material from the areas of geography and landscape art. Accordingly, the fertile area of overlap between these disciplines will be the focus of much of the chapter's argument. The key term in the texts throughout this chapter is *prospectus,* 'a sight' or 'view'. It is around this visual and specifically scenic aspect of the mountain environment that notions of landscape art and geography come together and where aesthetic attitudes begin to change.

The chapter will approach these themes first through core figure Conrad Gesner (1516-1565), who in 1555 listed the complete array of aesthetic experiences available to someone willing to explore the mountains. In his account Gesner describes the process of framing a view—a *prospectus*—which leads straight to the heart of the chapter. From here, and with an example of *prospectus* established, the chapter moves on to analyse the role of geography in the development of the new mountain aesthetic through Gesner's network of correspondence. Joachim Vadianus (1484-1551) corresponded with Gesner on the subject of the mountains. He also published a commentary on Roman geographer Pomponius Mela's *De Situ Orbis* and in the notes to the text he provides an account of one of his own mountain experiences. From this example, and with further evidence from the ancient tradition, the chapter will proceed to outline the rebirth of interest in geography and mapping in *Germania* and the roots of that rebirth in Italy. Returning then to Gesner's epistolary network, the chapter arrives at Swiss theologian Benedictus Aretius (1505-1574) who wrote to Gesner about his experiences in the Alps. Aretius is firm about the geographical implications of his observations on the mountain environment. However, a discussion of the ambiguities in the Latin words for 'map' and 'picture' leads the chapter to the alternative form of graphic landscape description—namely landscape art. The artistic genre of landscape was not as distinct from map-making as it is today and this overlap between the two

methods proves to be fertile ground for changing attitudes towards the mountain.

Geography's association with artistic portrayal of the landscape through map-making brings the chapter to its second core theme: landscape art. Here, early depictions of the mountain landscape and the Latin texts that discuss the emerging artistic genre shed further light on the development of the new aesthetic taste for the mountain environment. The word *prospectus* remains central to the Latin texts which address the growth of interest in the independent landscape genre. The word also remains essential to literary descriptions of mountain views and scenes which express the new feeling for the mountain. Through the word *prospectus*, then, the chapter will illuminate the relationship between landscape art and the changing mountain aesthetic as it appears in a series of Early Modern texts.

ii) *Prospectus*—Gesner Frames the Mountain

In 1555 the Swiss naturalist Conrad Gesner (1516-1565) published a *Descriptio Montis Fracti* at the end of his *Commentariolus de raris et admirandis herbis, quae Lunariae nominantur.*[1] The *Descriptio* relates Gesner's experiences and observations from an expedition he made to Mount Pilatus:

> *Cum pro veteri consuetudine mea, tum animi, tum valetudinis gratia, vel singulo, vel altero quoque anno brevem aliquam peregrinationem praesertim montanam suscipere soleam . . .*[2]

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[1] The full title of the *Descriptio Montis Fracti* continues: . . . *sive Montis Pilati ut vulgo nominant, iuxta Lucernam in Helvetia.* The *Commentariolus de raris et admirandis herbis*—first published in Zürich in 1555 by Andreas and Jacob Gesner—was, as the title indicates, a small piece. Gesner's work on the *Lunariae* only extends to 42 pages. The remaining 39 pages of the volume contain texts dedicated to mountains. After Gesner's own *Descriptio Montis Fracti* on pp.48-67, there is Johannes Duchoul's *Descriptio Pilati Montis in Gallia* on pp. 68-75, which describes *mons Cemmenus* near to Lyon. Finally, Johannes Rhellicanus' hexameter poem about the Stockhorn, the *Stockhornias*, appears on pp. 78-82. I return to the *Stockhornias* later in this chapter. The text of Gesner's *Descriptio Montis Fracti* is available with French translation in W. A. B. Coolidge, *Josias Simler et les origines de l'Alpinisme jusqu'en 1600* (Geneva, 1904): 196-221 in the notes. Here I use the 1555 Zürich edition of the *Descriptio Montis Fracti* in Gesner's *Commentariolus de raris et admirandis herbis.* This passage appears on p. 44.

[2] Gesner's *vetus consuetudo* is mentioned first 14 years earlier in his famous *Epistola de Montium Admiratione* addressed to Iacobus Avienus and printed in 1541 at Zürich at the beginning of Gesner's *Libellus de lacte et operibus lactariis.* Gesner is consistent about his grounds for establishing such a custom; in the *Epistola* he says: *partim earum cognitionis, partim honesti corporis exercitii animique delectationis gratia* 'partly to gather knowledge about them [the mountains], partly for the sake of some honest exercise for my body along with the delight of my mind'. The *Epistola* can be found printed (following Gesner's own custom) at the beginning of Coolidge, *Josias Simler et les origines de l'Alpinisme jusqu'en 1600,* i-xvii.

> Since I am in the habit of undertaking a short trip, especially in the mountains, every year or every two in accordance with my old custom and for the sake of my mind as well as my good health . . .

The piece was addressed to his friend, the doctor Johannes Chrysostomus Huber and dealt explicitly with the chorography of the mountain as well as with the legend of its lake, the supposed resting place of Pontius Pilate.[3] The tale ran that Pilate—on account of his part in the crucifixion of Christ—was exiled and met his end in Switzerland by drowning in the lake. The spirit of Pilate, moreover, continued to haunt the area:

> *Si quicquam ab homine de industria iniiciatur, toti regioni ex tempestatibus et inundatione periculum esse aiunt . . .* [4]
>
> They say that the whole area is put in danger of storms and flooding if someone throws anything into it [the lake] on purpose …

Gesner rejects this *incolarum persuasio*, finding no reason to believe it. Nonetheless, it was reason enough for the locals of Lucerne to have established the custom of requiring prospective excursionists to obtain permission to make an ascent of the mountain from the mayor of the town. This Gesner had duly done.[5]

Despite a long section treating local legends, the larger part of Gesner's text is dedicated to description of the mountain. Gesner addresses its physical features as well as the climate, flora, fauna and the kind of habitat it offers. Significant for the

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[3] The term 'chorography' will be central in this chapter. In what follows I will use the word in accordance with Joachim Vadianus' careful distinction between the terms *cosmographia, gaeographia, chorographia, topothesia* and *topographia* in the methodological preface entitled *Rudimentaria in Gaeographiam Catechesis* to his 1518 edition of Pomponius Mela's *De Orbis Situ* (Vienna). The second 1522 edition of this text (Basel) will be the focus of discussion later on in this chapter (see below subchapter iii) *Gaeographia—The Mountain in Chorography*). According to this definition, chorography is specifically the study of a part of the natural world—such as a mountain—singled out for description. Such a description would either be artistic or at least sensitive to artistic qualitites. With this in mind I follow Reichler in his hesitation to accept Coolidge's rendering of Gesner's term *chorographica* as *"topographique"* in his French translation of 1904. For Reichler's doubts about this translation see: C. Reichler, "Relations Savantes et Découverte de la Montagne: Conrad Gesner (1516-1565)" in *Relations Savantes: Voyages et discours scientifiques*, Imago Mundi 12 (Paris, 2006), 183. Mount Vettore in central Italy also has the legend of Pilate connected to it.

[4] Gesner, *Descriptio Montis Fracti*, 44.

[5] *Postridie a praetore magnifico viro Nicolae a Meggen, equite fortissimo, venia (ut moris est) Montem Fractum ascendendi impetrata, discessimus.* Gesner, *Descriptio Montis Fracti*, 44.

interests of this chapter are the six paragraphs, which respond to Gesner's rhetorical question:

> *Quis enim sensuum hic sua voluptate non fruitur?*[6]
>
> For which of the senses does not enjoy a pleasure of its own here?

In this part of the piece—dedicated to aesthetics in the primary sense of the word—Gesner addresses one by one the senses of *tactus,* 'touch', *visus,* 'sight', *auditus,* 'hearing', *odores,* 'smells' and *gustus,* 'taste'.[7] He finishes by saying:

> *Concludamus itaque tandem, ex montanis ambulationibus quae cum amicis suscipiuntur, summas omnino voluptates, et iucundissimas omnium sensuum oblectationes percipi*.[8]
>
> Let us conclude then finally, that the greatest enjoyment and most pleasant delights of all the senses are garnered from mountain excursions undertaken with friends.

Aside from remarking on the 'modern' tone in these lines, Swiss mountain scholar Claude Reichler is certainly right to note that Gesner emphasises the sensual aspects of his mountain experience in this section of the letter. Not least is Gesner's response to the view, "à laquelle est consacré un long paragraphe".[9]

The first sentence of Gesner's consideration of the view sets the tone for what follows in highlighting the extraordinary variety of features that views in the mountains can offer:

> *Visus mirabili montium, iugorum, rupium, silvarum, vallium, rivorum, fontium, pratorum aspectu insolito delectatur.*[10]
>
> One's sight is delighted by the magnificent and unaccustomed view of mountains, summits, cliffs, woods, valleys, rivers, springs and pastures.

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[6] Gesner, *Descriptio Montis Fracti*, 47.
[7] Note that the word *odores,* 'smells' is not strictly equivalent to the other words Gesner uses for the senses.
[8] Gesner, *Descriptio Montis Fracti*, 50.
[9] C. Reichler, "Relations Savantes et Découverte de la Montagne: Conrad Gesner (1516-1565)", 186-7.
[10] Gesner, *Descriptio Montis Fracti*, 48.

Gesner's list of views, or features to be viewed, in the alpine environment includes not only *iuga* and *rupes* but also mountains themselves. The reference here to the mountain can only be taken to mean the mountain as a whole, given that Gesner lists parts of the mountain—ridges, cliffs and woods, for example—in the same sentence. One might imagine that Gesner had something along the lines of the typical pyramid shaped mountain in his mind on writing these words. In fact, in another letter crucial for the story of the mountain in Neo-Latin, the *Epistola de Montium Admiratione* of 1541, Gesner does indicate that he shares with the modern mentality towards the mountain an idea of the typical or idealised mountain in pyramid form.[11] Elucidating his theory on how the mountains support such heavy, rocky summits with what he considers to be such soft and feeble bases, he explains that the heat inside the mountain is stronger at the top: [*ignis*] *plurimum in caput agit per suam pyramidis figuram* '[the heat] is powerful at the top because of the pyramid shape.'[12] Two points arise from this observation: the first—and more general—is that for Gesner the mountain is something more than just the sum of its parts. He highlights the mountain as an object—an idea—that can stand on its own. His framing of the mountain justifies this chapter's focus on the mountain itself, out of all the features of general mountain landscape scene, as an aesthetic object in the texts and artwork that will be considered in what follows. Secondly, Gesner opens up the meaning of a mountain 'view' to include not only views *from* the mountain, but views *of* the mountain as well. This is an openness which I see no need to constrain, especially given that in a mountainous landscape such as Gesner's Alps a view from a mountain very frequently also means a view of another mountain, or mountains.

Aside from listing the variety of things that can be viewed in the mountains, Gesner goes on to suggest three types of 'viewing' in which the mountain tourist might engage. He begins with the broadest circumspect and narrows down by degrees. First,

> *Si oculorum aciem intendere, visum dispergere, et longe lateque prospicere et circumspicere omnia libeat, speculae scopulique non desunt.*[13]

[11] For details of the 1541 *Epistola de Montium Admiratione* see n.2 above.
[12] Gesner, *Epistola de Montium Admiratione,* 6.
[13] Gesner, *Descriptio Montis Fracti*, 48.

> If you want to broaden your view, widen your vision, look out into the distance and survey everything far and wide, viewpoints and promontories abound.

Then,

> *Si, contra, colligere visum malis, prata silvasque virentes aspectabis.*[14]
>
> If, on the other hand, you prefer to gather in your vision you'll see green meadows and forests.

Finally, writes Gesner:

> *Ut amplius colligas, valles opacas, rupes umbrosas, speluncas obscuras inspicies.*[15]
>
> As you collect your view further, you can examine shady valleys, shadowed cliffs and dark caves.

Gesner's focus on the various sights available to the viewer serves not only to underline the importance of this part of the mountain experience for Gesner, but it also shows an awareness of the viewer's ability to frame the view in a such a way that they could obtain the most pleasure from it. In the citations above he uses vocabulary of enjoyment and preference—*libere* and *malle*—rather than of exigency or possibility.

First the reader is invited to widen his view—*visum dispergere*—and take in everything around far and wide. Gesner even advertises the large number of *speculae scopulique* 'viewpoints and promontories' which make this wide view available. Gesner may, indeed, have had the very summits of the mountains in mind in using the word *specula,* as well as just the ordinary sense 'look-out point'.[16] Gesner next proposes that the viewer draws together his visual field, first to frame a moderate

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[14] Gesner, *Descriptio Montis Fracti.,* 48.
[15] Gesner, *Descriptio Montis Fracti.,* 48.
[16] For the primary meaning of *specula* as a look-out point or watch-tower see OLD *s.v. specula.* The first meaning of *specula* retained its primacy in the Early Modern period: *cf. specula* in R. Estienne, 1546, *Dictionarium Latinogallicum multo locupletius,* (Paris) *s.v.*: "*Beffroy ou éschauguette, le lieu en une ville fort hault dont on regarde de loing si les ennemis viennent";* or in A. F. Kirsch, 1774, *Abundantissimum Cornu Copiae Linguae Latinae Et Germanicae Selectum,* (Leipzig): *Eine Warte, oder ein hoher Ort, daraus man den Feind ausspähet. Specula* is, however, associated with the top of a mountain in *e.g.*: Verg. *E.* VIII, 59-60, where Damon sings at the end of his song: *praeceps aërii specula de montis in undas / deferar*; or in Verg. *A.* XI, 526*: in speculis summoque in vertice montis/ Planities ignota jacet.*

area such as the meadows and woods—*prata silvasque*—and then further to look at the smaller features of the terrain like cliffs or caves. *Colligere* preserves its general sense 'to gather, collect' here, but implicit in Gesner's description of a person experimenting with, framing and selecting his preferred view is a lowering of the field of vision to take in things closer at hand: forests and fields are usually in the middle of the mountain scene, while valleys can properly only be at the bottom. This lowering of the field of vision makes a good deal of sense, since if one attempts to shorten his or her view from a mountain top at the same time as maintaining the same level with their eyes, they would—in the absence of mountains nearer at hand—have to grapple with the difficult task of looking *at* air.

Gesner also refers twice to the *figurae* 'forms, figures' that shape the landscape:[17]

> *Quod ad eorum quae videntur figuras, mirae et rarae sunt scopulorum, rupium, anfractuum, aliarumque rerum species, tum figura, tum magnitudine altitudineque admirandae.*[18]
>
> As for their remarkable and rare forms, the appearances of the cliffs, rocks, curves and other things are amazing and rare, and they are to be wondered at both for their shape as well as for their size and height.

These are features of the rocks—the mountains themselves—as opposed to the shapes of plants or the curve of valleys, which might be more commonly thought of as agreeable. But this passage also demonstrates the way in which Gesner conceives of the mountain landscape as being composed of various elements that can be enjoyed aesthetically both for their dimensions as well as for their shape.

In these passages Gesner frames the mountain as an aesthetic object and introduces the aesthetic concepts surrounding the act of viewing the mountain environment. These concepts will be the concern of the rest of this chapter. The viewer is able to manipulate his view and select the chorographical scene that he prefers. The mountain is a whole; a *figura* in itself. But it is also made up of other *figurae;* cliffs, rocks and curves, which complete the picture of the mountain

[17] Reichler emphasises the role of Gesner's *figurae* as indicating an aesthetic way of looking at the landscape in "Relations Savantes et Découverte de la Montagne: Conrad Gesner (1516-1565)", 187.
[18] Gesner, *Descriptio Montis Fracti*, 48.

landscape. Moreover, Gesner establishes in these passages that aesthetic appraisal of the *mons ipse* or its *figurae* was possible at all during the period.

iii) *Gaeographia*—The Mountain in Chorography

Another piece, closely related to the *Descriptio Montis Fracti* and printed alongside it, allows closer investigation of the themes introduced by Gesner above. In 1522, Joachim Vadianus (1484-1551) published the second edition of his commentary on Pomponius Mela's *De Orbis Situ* at Basel.[19] This second edition contained an account of the author's own ascent of Mount Pilatus, which had not been included in the first.[20] Vadianus' report is less informative than Gesner's as regards his reactions to the Alpine environment. This is perhaps because Vadianus made the trip expressly *lacus videndi gratia* 'for the sake of seeing the lake'.[21] Certainly, a considerable part of the account is dedicated to a discussion of the lake and its legend.[22] But the piece is not without its share of physical description, such as this passage which depicts the position of the lake near the top of the mountain. The mountain itself (*mons ipse*)—just as in Gesner—is treated as a feature in its own right:

> *Mons ipse, caetera fere praeceps, eo in loco pascuus est, et ingenti sese ambitu in speciem orbis inclinans valle profunda residet; ipso in meditullio lacum sustinet.*[23]
>
> The mountain itself, elsewhere almost vertical, is fit for pasture-land in this area and it drops down with a huge curve in a circular shape settling in a deep valley; it holds the lake here right in the centre.

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[19] Joachim Vadianus, 1522, *Pomponii Melae De Orbis Situ Libri Tres, accuratissime emendati una cum Commentariis Ioachimi Vadiani Helvetii castigatioribus, et multis in locis auctioribus factis* (Basel). For Vadian's biography and introduction to his oeuvre see chapter four "Vadian der Reformator" in M. Jehle and F. Jehle, *Kleine St. Galler Reformationsgeschichte*, (St. Gallen, 1977).

[20] Vadianus' description of Pilatus was excerpted by Gesner and printed as part of his own *Descriptio Montis Fracti* in 1555 (see n.1 above) on pp. 55-60. I will cite in what follows from Gesner's page numbers. Vadianus' description also appears, accompanied by a French translation, in: Coolidge, *Josias Simler et les origines de l'Alpinisme jusqu'en 1600*, 180-185 in the appendices.

[21] Vadianus, *Descriptio Montis Fracti*, 55.

[22] Vadianus is less outspoken in his scepticism over the lake's myth than Gesner, who rejects outright any supernatural forces in the area whatsoever. Vadianus says about the legend: *Haec enim mortalium levitas est, ut locis naturae numine aliquo insignibus fabularum praestigias adnectant.* He goes on to say, however: *et interim natura nescio quomodo comparatum, ut non difficile credunt, qui audiunt . . .* Vadianus, *Descriptio Montis Fracti*, 57.

[23] Vadianus, *Descriptio Montis Fracti*, 56.

Vadianus included an exposition of his geographical principles as an introduction to his commentary on Mela. The prefatory essay is entitled *Rudimentaria in Gaeographiam Catechesis*.[24] In the first part of the essay he makes a careful distinction between the terms *gaeographia, cosmographia, topographia, topothesia* and *chorographia.* He feels these terms are *plerumque tamen confusa scriptoribus* 'frequently confused by writers'.[25] Vadianus describes geography as the science positioning lands in relation to each other and to the ocean.[26] He asserts that geography should also include the history of the lands it describes as well as their cities and peoples.[27] This is in contrast to the work of the cosmographer who, *ad gaeometricam astronomicamque inclinans,* describes the earth to better understand its relationship to the heavens. For the term 'chorography', Vadianus stays close to the received categorisation of Claudius Ptolemy, the great Alexandrian geographer:

> Ἔχεται δὲ τὸ μὲν χωρογραφικὸν τέλος τῆς ἐπὶ μέρους προσβολῆς, ὡς ἂν εἴ τις οὖς μόνον ἢ ὀφθαλμὸν μιμοῖτο, τὸ δὲ γεωγραφικὸν τῆς καθόλου θεωρίας κατὰ τὸ ἀνάλογον τοῖς ὅλην τὴν κεφαλὴν ὑπογραφομένοις.[28]
>
> The goal of chorography is a description in parts, as if someone were to portray just an eye or ear, whereas the goal of geography is a view of the whole; a general description of the whole head, according to the analogy.

Ptolemy goes on to say that on account of the detail required and the preference for realistic representation: οὐδὲ εἷς ἂν χωρογραφήσειεν, εἰ μὴ γραφικὸς ἀνήρ 'no-one would attempt a chorography, if he were not a man skilled in drawing.' Although Vadianus diverges somewhat from Ptolemy in his definitions of geography and cosmography by significantly expanding the range of topics included under the umbrella of geographical information, the emphasis on detailed study of a selected

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[24] The *Rudimentaria in Gaeographiam Catechesis* is part of the introductory material to the edition and commentary. It runs from page B^r- $C4^v$. I cite in what follows from the Basel edition of 1522.
[25] Vadianus, *Rudimentaria in Gaeographiam Catechesis*, B^r.
[26] *Gaeographia tamen, si etymon vocabuli sequimur, proprie ea est quae terrae situm et extra intraque ad Oceanum nostrumque mare se habet cum locorum passim iacentium enumeratione describit.* Vadianus, *Rudimentaria in Gaeographiam Catechesis*, B^r.
[27] *Cumque Geographus praeter locorum enumeratione, et historiam addat. . .* Vadianus, *Rudimentaria in Gaeographiam Catechesis*, B^r.
[28] Ptol, *Geo.*, I.2. I have used in what follows the latest edition of the text: A. Stückelberger, G. Grasshoff, and F. Mittenhuber, *Ptolemaios: Handbuch der Geographie* (Basel, 2006).

area of the earth is retained in Vadianus' explanation of chorography.[29] He even includes Ptolemy's comparison of the chorographer's work to the work of an artist:

> *Chorographia est quae loca seorsum, tanquam separata a caeteris, picturae similitudine observata prosequitur: ut si quispiam Romam eiusque ad proxima sitae formulam, ut re ipsa est, tabella effigiet.*[30]
>
> Chorographia describes distinct places that have been seen in detail, as if separated from the rest, in resemblance to a picture: as if someone were to portray Rome's form, as it actually is, on a tablet from nearby.

This definition of the term allows us to situate Vadianus' and Gesner's accounts of their trips to Mount Pilatus precisely within the tradition of chorography, since they describe, in detail, one specific place or feature of the landscape, namely the mountain. Moreover, the 'artist's eye', a sensitivity to the shapes, colours and pictorial qualities of the chorographical scene suggested by Ptolemy—γραφικὸς ἀνήρ—and picked up again by Vadianus—*picturae similitudine*—is not altogether missing from the *descriptiones Montis Fracti* even though they are written accounts. Gesner, for example, does not spare the use of colourful adjectives in his section on the various methods of viewing the landscape quoted above: *valles opacas, rupes umbrosas, speluncas obscuras*.[31] And Vadianus is arguably even more 'painterly' in his description of the position of the peak of Pilatus: *ingenti sese ambitu in speciem orbis inclinans valle profunda residet*.[32] One might imagine the writer tracing the 'huge curve' *ingenti . . . ambitu* with his pen. Here the *figurae* of the mountain landscape, to which Gesner attracted attention in his *Descriptio*, once again show themselves relevant to these early Latin observations of the mountain, here in a chorographic, 'artistic' context.

iv) *Gaeograhia*—Geography into Art*:* Alberti

The association between the task of the chorographer and the work of the artist is also clear in the thought of another important figure. Leon Battista Alberti

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[29] Gerald Strauss, "Topographical-Historical Method in Sixteenth-Century German Scholarship," *SRen* 5 (1958): 99.
[30] Vadianus, *Rudimentaria in Gaeographiam Catechesis*, B^{v}.
[31] Gesner, *Descriptio Montis Fracti*, 48. See n. 12 above.
[32] Vadianus*, Descriptio Montis Fracti*, 56. See n. 20 above.

(1404-1472) did, in fact, *Romam eiusque ad proxima sitae formulam, ut re ipsa est, tabella effigiare* 'portray Rome's form, as it actually is, on a tablet from nearby'.[33] At least he is presumed to have done so to accompany his *Descriptio Urbis Romae,* although no maps of the city by Alberti's hand survive.[34] This slim Latin work puts forward Alberti's method for accurately mapping the city of Rome and includes in its opening paragraph the same connection—noted in both Ptolemy and Vadianus—between the hand that maps and the hand that creates art:

> *Murorum urbis Romae et fluminis et viarum ductus et lineamenta, atque etiam templorum publicorumque operum et portarum et trophaeorum situs collocationemque ac montium finitiones, atque etiam aream quae tecto ad habitandum operta sit . . . eaque excogitavi quo pacto quivis vel mediocri ingenio praeditus bellissime et commodissime pingere, quantacumque voluerit in superficie, possit.*[35]
>
> The lines of the city of Rome's walls and the passage of its rivers and roads, the placement and arrangement of its temples, public buildings, gates and the boundaries of its mountains, as well as also the area which is covered over for inhabitation . . . I have worked out by what means anybody might be able to paint these things most pleasantly and beautifully, even someone only gifted with a middling talent, on whatever size of surface he might want.

Alberti's emphasis in the first part of his opening sentence on a full and carefully planned graphic description of Rome is demonstrated by the long list of items to be depicted that he specifies. The quick switch to a focus on the more artistic considerations in the second part of the sentence: *bellissime et commodissime pingere* serves to further underline the reference to Ptlomey's γραφικὸς ἀνήρ (however mediocre his skills!). Vadianus evokes this tradition of a close relationship between art and chorography his words *picturae similitudo.*[36] We will return to Alberti's ideas of chorography and art below in a treatment of his work *De Pictura* (1435).[37]

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[33] Vadianus, *Rudimentaria in Gaeographiam Catechesis*, B^{v}. See n. 27 above.
[34] For the evidence that Alberti illustrated the *Descriptio Urbis Romae* see: J. R. Short, *Making Space: Revisioning the World, 1475-1600* (Syracuse, NY, 2004), 101–2. Artist Pietro del Massaio certainly illustrated an edition of Ptolemy's *Geography* with a map of Rome among other cities for an edition of 1471. These illustrations were drawn to Alberti's specifications.
[35] The Latin cited here follows that of the modern edition of M. Furno and M. Carpo, *Leon Battista Alberti* text*, Descriptio urbis Romae* (Geneva, 2000).
[36] Vadianus, *Rudimentaria in Gaeographiam Catechesis*, B^{v}. See n. 27 above.
[37] See subchapter *Gaeographia et Prospectus—Chorography becomes Art* below.

v) *Gaeographia*—Geography's Rebirth in Germania

The surge of interest in geography and chorography amongst the German speaking peoples, to which which both Vadianus and Gesner contributed with their descriptions of the mountains, also had its original impulse in Italy. Master humanist Enea Silvio Piccolomini became Pope Pius II in 1458, the same year in which he completed the *Europa* section of his *Cosmographia*. The work clearly sets out its intention in the opening pages:

> *Digeremusque singula per loca et ab orientali plaga facientes initium, per medias provincias narratione deducta, ad occiduas nostrasque oras remeabimus de locorum gentiumque natura et situ quae videbuntur necessaria inserentes.*
>
> I will proceed according to individual places and starting from the eastern region, having taken the narrative through the middle provinces, I will return to our western shores inserting pieces of information which seem necessary on the nature of the lands and peoples as well as their location.

Piccolomini's chapters on Italy and its great cities, beginning on 128 v. with chapter XLVIII, gave German geographers a model for treating the geography of their own country. So, too, did Piccolomini's chapters on *Germania* itself.[38] If Piccolomini's ultimate goal in the *Cosmographia* was to use geographical information to gain an understanding of a country's history, his other writings were not without a feeling for the lands through which he travelled and about which he was writing. In the autobiographical *Commentaries,* Piccolomini reveals his talent for elegant landscape description in book nine, for example, when he turns his skills to Mount Amiata:

> *Amiata mons est in agro Senensi, Apenninis non inferior iugis; Pistoriensibus tantum Alpibus in tota Italia fertur cedere. Ad summum usque verticem vestitur nemore: pars celsior saepe obsessa nubibus fago tegitur; castanea deinde succedit, et post eam, vel quercus, vel suber.*
>
> Mount Amiata is in Sienese territory. It is as high as the Apennines and in all Italy only the Pistoian Alps are said to be higher. It is clothed to

[38] Piccolomini, *Cosmographia*, XXXIII, 116[r].

> the very summit with forests. The upper part, which is often cloud-capped, is covered with beeches; below are chestnuts and below them oak or cork trees.[39]

Given Piccolomini's reputation and charming style it is not surprising to find him cited as inspiration for one of the earliest contributors to the Germanic geographical Renaissance. Albrecht von Bonstetten, Dean of Einsiedeln Abbey, wrote to Archduke Sigmund of Austria in a letter dated 4th March 1492 saying that of the many writers ancient and modern it is Piccolomini who has most nourished his style.[40] Bonstetten was the author of a *Descriptio Helvetiae,* which he sent to Louis XI '*le rusé'* of France in 1481. The *Descriptio* paints a flattering picture of Switzerland in twenty short chapters. It begins by placing Switzerland on the map of Europe in the very centre: *Hoc punctum divisionis Europae commune sunt terrae confederatorum tanquam cor et punctus medius* 'the lands of the [Swiss] confederacy are the very point of the division of Europe, the heart, so to speak, and the middle point'.[41] Bonstetten's Latin style in the *Descriptio* never quite reaches up to that of *der vil süsse Eneas Silvius*, nor are his descriptions of the mountain environment quite so expressive. Nevertheless, the mountains play an important role in the text, just as they do—Bonstetten asserts—in the geography of Europe: *et Europa, in qua nos quoque consistimus Theutones, convenientissime dividitur per montana*; 'and Europe, which includes also us Germans, is most conveniently divided up by mountains'.[42] Likewise the mountain plays a star role in the geography of Switzerland itself, for example in the description of the canton of Schwyz: *Huic Suitz est nomen, hic undique cingitur altis montibus et lacubus, nec sibi strata patet* 'Its name is Schwyz, surrounded on all sides by high mountains and lakes, nor is there any street leading to it.'[43]

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[39] Piccolomini, *Commentaries,* IX, 216. The Latin text is that of the 1614 Frankfurt edition of the *Commentaries*, itself a reprint of a 1584 Basle edition which was prepared and expurgated by Cardinal Francesco Bandini Piccolomini, a distant relative of Pius II. This edition was based on the version of the *Commentaries* made by scribe Joannes Gobellinus of Linz at the request of Pius II. Mount Amiata is one of the largest lava domes in Tuscany.

[40] *Aus vil alten und neuwen hystoriographen, poeten und oratoren (under denen mich der vil süsse Eneas Silvius zemal vast weit—bekenn ich—und fuer ander alle mit seiner verzuckerierten süssikeit indystilliert gespeiset und ettwas seiner kunst honigwaben gebotten hat)* . . . The modern edition of Bonstetten's letters is: Büchi, A., *Albrecht von Bonstetten, Briefe und ausgewählte Schriften*, Quellen zur Schweizer Geschichte, vol. 13 (Basel, 1893). This passage appears on p. 127.

[41] Büchi, *Albrecht von Bonstetten, Briefe und ausgewählte Schriften*, 96.

[42] Büchi, *Albrecht von Bonstetten, Briefe und ausgewählte Schriften*, 96.

[43] Büchi, *Albrecht von Bonstetten, Briefe und ausgewählte Schriften*, 101.

The *Descriptio Helvetiae* does not make any great direct contributions towards the change in aesthetic attitude towards the mountains which this chapter is tracing.[44] But his work represents one of the earliest examples of the growth in interest in chorography among the German peoples. This interest would produce the transformed attitudes towards the mountains of Gesner and the geographic work of Vadianus, among many others. In 1492, Conrad Celtis (1459-1508), one of Germany's humanists *par excellence*, made the significance of geographical studies for the Teutonic lands explicit. In his famous *Oratio in Gymnasio in Ingolstadio publice recitata*—delivered at the University of Ingolstadt as he began his teaching post there—Celtis demands that new life be breathed into scholarly pursuits in Germany in order to bring intellectual life in his country onto a par with that of Italy and to remove the stains that foreign academic traditions had left on his country's reputation. His emphasis lies on geographical and historical studies:

> *Tollite veterem illam apud Graecos, Latinos et Hebraeos scriptores Germanorum infamiam, qua illi nobis temulentiam, immanitatem, crudelitatem et, si quid aliud, quod bestiae et insaniae proximum est, ascribunt. Magno vobis pudori ducite Graecorum et Latinorum nescire historias et super omnem impudentiam regionis nostrae et terrae nescire situm, sidera, flumina, montes, antiquitates, nationes.*[45]
>
> Do away with that old dishonour of the Germans in the Greek, Latin and Hebrew writers who attribute to us drunkenness, cruelty, savagery and every other vice close to bestiality and excess. Consider it shameful not to know the histories of the Greeks and Romans and the height of shame to know nothing about the topography, climate, rivers, mountains, antiquities and peoples of our regions and our own country.

To this end Celtis planned the ambitious *Germania Illustrata*, a work whose inspiration lay, once again, in Italy.[46] The project's scope was, in fact, so broad that it never arrived at a finished article. The *Germania Illustrata* was intended to be a

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[44] It does, however, overturn some of the formerly negative perceptions of the mountains in, for example, recognizing the fruitfulness of the Alpine environment. Talking of the town of Zug, Bonstetten says …*montes virides et gramine exuberantes habet* 'it has green and grass rich mountains' Büchi *Albrecht von Bonstetten, Briefe und ausgewählte Schriften,* 101.

[45] The Latin text here follows the modern edition of Joachim Gruber, *Conradi Celtis Protucii Panegyris ad duces Bavariae* (Wiesbaden, 2003), 16–40.

[46] This time it was Flavio Biondo (1388-1463) and his 1474 *Italia Illustrata* (Venice) from which Germany took its cue.

collaborative work, drawing together research from humanists throughout the German countries. Celtis kept interest in the project alive by scattered references to it in other works and gave his colleagues a sample of the work to come in his *Germania Generalis,* a poetic description of Germany in 284 hexameters, which appeared around 1498/1500.[47] As far as the mountains are concerned, the *Germania Generalis* does not demonstrate a particularly enlightened attitude. Lines 164-196 are dedicated to the mountains and appear under the sub-heading *De tribus iugis et montibus Germaniae.* They offer little more than the traditional and oft-repeated selection of mountain imagery, adjectives and epithets. Celtis' mountains are: *iuga maxima. . . / verticibusque suis feriunt vaga sydera celi* 'huge summits that strike the wandering stars with their points' (lines 170-1), which draws on images such as Petronius' *. . . ad sidera vertice tollit* (*Satyricon* 122, see note 29 in 'Literary Heritage') and in more literal way the last lines of Horace's *Carmina* 1.1:

> *Quodsi me lyricis vatibus inseres,*
> *sublimi feriam sidera vertice.*[48]
>
> And if you put me among those lyric poets,
> I will strike the sky with my lofty head.

Celtis also has *nebulosos montes* 'misty mountains' at line 172, similar to the image Homer's image of Zeus: ὡς δ' ὅτ' ἀφ' ὑψηλῆς κορυφῆς ὄρεος μεγάλοιο / κινήσῃ πυκινὴν νεφέλην στεροπηγερέτα Ζεύς.[49] The mountains are also the sources of the rivers in Celtis' descriptions: *scabris latebris spumantia flumina fundunt* 'they pour foaming rivers flow from jagged caves' (line 173). This connection we remember from the opening of Horace's Soracte Ode where the mountain's rivers are frozen solid. The *niveo vertice* 'snowy peak' on line 183 of Celtis' mountains is not innovative either. Horace, again, sang: *Vides ut alta stet nive candidum / Soracte* in

[47] For the work never being completed see Strauss "Topographical-Historical Method in Sixteenth-Century German Scholarship," 27. Celtis mentions his planned work in his *Book on Nuremberg,* for example. The latest and fullest edition of the *Germania Generalis* is that of G. M. Müller, *Die "Germania Generalis" Des Conrad Celtis* (Tübingen, 2001). The edition contains a critical text, translation, commentary and helpful additional essays. I use here this text, including the occasionally non-standard spellings which the editor maintained in the modern print. Müller's text is based predominantly on the first print of the text which Celtis himself published, see: Müller, *Die "Germania Generalis" des Conrad Celtis,* 29-31.

[48] Hor. *Carm.,* I.1.

[49] Hom. *Il.,* XVI.297-300. See subchapter iii) *The Mountains and the Gods* in *Literary Heritage* above.

Carmina 1.9 and Mnemosyne gave birth to the Muses τυτθὸν ἀπ᾽ ἀκροτάτης κορυφῆς νιφόεντος Ὀλύμπου as early as Hesiod.[50] The association of the mountain with the forest in Celtis at 189-90 [*iugum*]…*ingenti dorso stans pinifer atrum tollit in astra caput* 'the summit stands firm lifting its dark, forested head to the stars on its enormous ridge' is familiar from the wooded peak of Catullus 64 that was cleared for the construction of the Argo, or the πεύκη οὐρείη that went to make the Trojan Horse.[51]

If Celtis' project never really took shape in Germany, and his appreciation of the mountain scenery never reached a truly enthusiastic and positive stage, the story, as we have seen in the authors cited until now in this chapter, was certainly different for Switzerland. Indeed, it was the *Confoederatio Helvetica* that responded most vigorously to Celtis' plea for interest in the land and where chorographical writing reached its northern European peak: 'Nowhere was the technique handled with such mastery, nowhere was civic patriotism as vigorous, as in Switzerland. Nowhere was there as much to write about. Switzerland was by far the most intensively surveyed region in the sixteenth century.'[52] Here are the impulses to which Gesner, Vadianus and the other writers in this chapter were, in part, responding, as well as the intellectual atmosphere which allowed them to develop their positive mentality towards the mountain through *prospectus* and the discovery of 'landscape'.

vi) *Gaeographia*—Aretius: Mountain Enthusiasm and Autopsy

With Alberti and the Teutonic geographical movement now introduced, we can return to more positive attitudes towards the mountain through another writer—once again connected to Conrad Gesner: Bernese schoolmaster and theologian Benedictus Aretius (1505-1574).[53] Aretius climbed the Stockhorn and Niesen in 1558 and sent accounts of these expeditions to Gesner accompanied by a record of the plants he encountered on his way. The text was printed by Gesner, along with another very short description of an ascension of the Calanda in 1559 by Johannes Fabricius Montanus, at the end of his edition of Valerius Cordus' *Medical*

[50] See subchapter iii) *The Mountains and the Gods* in *Literary Heritage* above.
[51] For Catullus' *pinus prognatae vertice Peliaco* see 64.1-7. On the wood for the Trojan horse see Hom. *Il.,* XXIII.117.
[52] Strauss, "Topographical-Historical Method in Sixteenth-Century German Scholarship," 86.
[53] For Aretius' life and works see: K. Guggisberg, "Aretius, Benedictus", in: *NDB* 1 (1953), 349.

Notes in 1561 at Zürich.[54] Aretius was certainly a mountain enthusiast, even lover. His passion for the mountains perhaps at times surpasses that of Gesner in the latter's *Epistola de Montium Admiratione*. The following passage is a good representation of the author's general enthusiasm:

> *Ego sane nescio qua dulcedine et naturali quodam amore erga montes afficior, ut nullibi libentius verser, quam in montium iugis, nullae sunt suaviores mihi peregrinationes quam montanae.*[55]
>
> I really don't know by what charm or natural love towards the mountains I am moved, to the point that I would be no-where else more gladly than on the tops of the mountains, there are no journeys more sweet for me than those in the mountains.

Aretius demonstrates his choro/geographer's eye throughout the piece, carefully describing the landscape through which he travelled. For Aretius this even had a directly cartographic goal:

> *In praesentia autem quaedam de valle Simmea addemus propter tabulas alpinas in quibus loca quaedam transposita sunt.*[56]
>
> Now I will add, however, a note on the Simmental because on maps of the Alps some areas are misplaced.

The value of having seen the landscape with one's own eyes as an attestation of the accuracy of a description or map-work was a central part of the Germanic humanist interest in topography. The need for autoptic investigation of the land was quickly recognised and became an important tool in the work of the geographer. Vadianus made this clear in his *Rudimentaria: . . . (ut) in locorum perquisitione sese animus non exsatiet, nisi coram ita sita videat* 'the mind does not satisfy itself in its investigation of places, unless it thus sees the sites first hand.'[57] In fact, this had always been a part of the geographical and topographical tradition:

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[54] The piece is available to the modern reader in Coolidge, *Josias Simler et Les Origines de l'Alpinisme jusqu'en 1600:* pièce annexe 16. In what follows, the text and pages numbers follow Coolidge's edition.
[55] Aretius, *Stocchornii et Nessi Descriptio*, 230.
[56] Aretius, *Stocchornii et Nessi Descriptio,* 236.
[57] Vadianus, *Rudimentaria in Gaeographiam Catechesis,* B 2^{r}.

> τῆς τοιαύτης μεθόδου τὸ προηγούμενόν ἐστιν ἱστορία περιοδικὴ, τὴν πλείστην περιποιοῦσα γνῶσιν ἐκ παραδόσεως τῶν μετ' ἐπιστάσεως θεωρητικῆς τὰς κατὰ μέρος χώρας περιελθόντων.[58]
>
> the first step of this [geographical] inquiry is knowledge acquired from travelling around, which obtains the most knowledge from the records of those who have undertaken journeys around countries part by part with thoughtful observation.

This emphasis on having seen the land personally before describing it, characterised the work of the German geographers.[59] The references to the importance of autopsy in Aretius and Vadianus show that our early mountain writers who were often born, living or publishing in Switzerland shared this conviction. It caused them to look at nature and the mountain with fresh eyes, eager for the descriptive detail that fills their accounts.

vii) *Gaeographia et Prospectus*—Chorography becomes Art

Aretius, like Gesner, considered the views offered by the mountain environment a part of its aesthetic appeal: *non puto autem facile reperiri montem amoenitate huic* [Aretius heaps this praise onto the Niesen in the Bernese Oberland] *parem, tum propter conspectum, qui longe lateque patet . . .,* 'I don't think I will easily find a mountain equal to this one in charm, first on account of the view, which spreads far and wide . . .'[60] He also, like Vadianus and Ptolemy before him, sees the importance of taking in these views first hand for the furthering of geo/chorographical and cartographical knowledge, as the excerpt above on the Simmental demonstrates. But Aretius also connects together the expansive views on the mountains and his concern for geographical investigation through aesthetic

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[58] Ptol., *Geog.*, I,2.

[59] Lucien Louis Joseph Gallois, *Les géographes allemands de la Renaissance* (Paris, 1890), 163–4, enthusiastically finishes his chapter on German descriptive geography with: *Ceux-là,* [the German geographers] *sans l'avoir cherchée, et par une voie indirecte, ont ramené la géographie descriptive à sa vraie et à sa seule méthode, qui est l'étude du sol lui-même. Commenter les auteurs anciens les uns par les autres, ou encore par les auteurs du moyen âge, c'était rester toujours enfermé dans le même cercle. Il fallait rompre avec cette méthode stérile, abandonner les livres et oser regarder la nature.*

[60] His second reason for finding the mountain so singularly attractive is the variety of plants it presents, …*tum ob herbarum varietatem.*

enjoyment. His letter closes with this sentence before he lists the plants he came across on the trip:

> *Haec rerum varietas incredibiliter spectantium oculos reficit, etenim res usque adeo naturae discrepantes uno contuitu quasi in tabula profert, idque vel sedentibus.*[61]
>
> This variety of things marvellously restores the eyes of the viewers, because it presents the things in nature that differ so much, as if on a map, in a single gaze, even to those sitting down.

This juxtaposition of the ocular pleasure found in enjoying a view from a mountain and its likeness to a map, or picture, is hardly surprising given the close relationship between cartography and more artistically minded representations of the terrain as the two genres of landscape description developed.

The terminology used to refer to maps or pictures of the landscape frequently overlaps even in texts after—or contemporary with—such works as Vadianus' *Rudimentaria,* which went to some lengths to set geography and its various sub-categories apart.[62] In the excerpts above, for example, Aretius' *in tabula profert* could equally refer to a technical map or simply what modern viewers might refer to as a landscape painting. Things are a little clearer in the case of the *tabulae alpinae* in Aretius' section on the Simmental, where 'some areas' he says, 'are misplaced', which can only properly refer to cartography. However, the distinction is provided in this case wholly by the context of the passage; *tabula* remains merely a word for 'a (painted) panel'.[63] Perhaps most telling is the ambiguity in the quoted piece from Vadianus above (see note 13) where the Swiss humanist attempts to clarify the meaning of the term '*Chorographia'* and has no trouble blending the ideas of *similitudine picturae* and *tabella effigiare* in the same sentence.[64]

Moreover, most artists who became interested in depicting the landscape at the turn of the 16th century also tried their hands at cartography and achieved some

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[61] Aretius, *Stocchornii et Nessi Descriptio,* 244.
[62] Ronald Rees, "Historical Links Between Cartography and Art," *GeogR* 70 (1980): 60.
[63] Humanist dictionaries such as Robert Estienne's 1546 *Dictionarium… seu thesaurus* do not specify the word as uniquely referring to either a cartographical work or a painting. Even much later early modern dictionaries such as Adam Kirsch's 1774 *Cornu Copiae Linguae Latinae* just list both meanings side by side, meaning 10 under *tabula* has *tabulae geographicae* – Landkarten, while 15 translates the word as *Gemählde*.
[64] *Tabella* here operates as the diminutive form of *tabula*, rather than being a separate term.

remarkable success.[65] Leonardo da Vinci provides a famous example with his map of Imola (ca. 1502). The piece is one of the first Renaissance maps of a town that avoids an oblique viewpoint and opts instead for a vertical, 'bird's eye' view.[66] The more common oblique view, exemplified by Francesco Rosselli's *Map of Florence with the Chain* ca. 1485 (fig. 1), was often taken from a vantage point such as a church tower or hilltop.[67] But the view could also be abstracted to a raised position— in reality unattainable—from knowledge of a land- or cityscape acquired while on the ground. The *Map of Florence* demonstrates this technique and even goes as far as depicting the painter in the bottom right-hand corner of the map diligently drawing the town while perched upon a hill that does not exist.[68] Aside from being a technique employed by the painter/cartographer to inspire confidence in the accuracy of his map the inclusion of the painter on his fictional hill paradoxically underlines the narrowness of the gap between art and 'scientific' geographical representation.[69] Indeed, Rosselli took other 'artistic' licences in his map, such as modifying the view of the town for his map to make features in the picture more recognisable and pleasing to its viewers. Various buildings have been rotated on the map to present to the viewer their most recognisable and characteristic faces.[70] The river Arno has been included in the picture as well, although it would have been completely invisible from where the draughtsman is seated.[71] These features of Rosselli's *Map of Florence with the Chain* hark back to the decorative days of

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[65] T. Michalsky, *Projektion und Imagination: die niederländische Landschaft der Frühen Neuzeit im Diskurs von Geographie und Malerei* (Fink, 2011), 29.

[66] The map is kept as part of the collection of the Royal Library, Windsor Castle, Windsor. For the map's perspective innovation see: R. Rees "Historical Links Between Cartography and Art,", 70-1.

[67] Original (woodcut) in the Uffizi, Florence. P. D. A Harvey, "Chapter 20 - Local and Regional Cartography in Medieval Europe," in *The History of Cartography, Volume 1: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*, by D. Woodward and J. B. Harley, vol. 1 (Chicago, 1987), 465.

[68] L. D. Ettlinger, "A Fifteenth-Century View of Florence," *TBM* 94, 591 (1952): 163.

[69] For the use of techniques such as this to inspire confidence in the veracity of a map G. Carlton, "The World Drawn from Nature: Imitation and Authority in Sixteenth-century Cartography" (presented at the SCIENTIAE conference: Disciplines of Knowing in the Early-Modern World, Vancouver, 2012). For the close relationship between art and cartography see: Michalsky, *Projektion und Imagination*, 29: 'Dabei geht es nicht um eine Kategorisierung von „objektiver" Kartographie und „subjektiver" Malerei . . .'

[70] Two striking examples of this technique in Rosselli's *Map of Florence with the Chain* are the Palazzo Pitti, which has been rotated westwards and the Santa Croce, which has been shifted quite a way from where it should stand in reality.

[71] Ettlinger, "A Fifteenth-Century View of Florence," 164.

cartography, when the focus was rather on producing a map pleasing to the eye than representing the earth with any level of truth.[72]

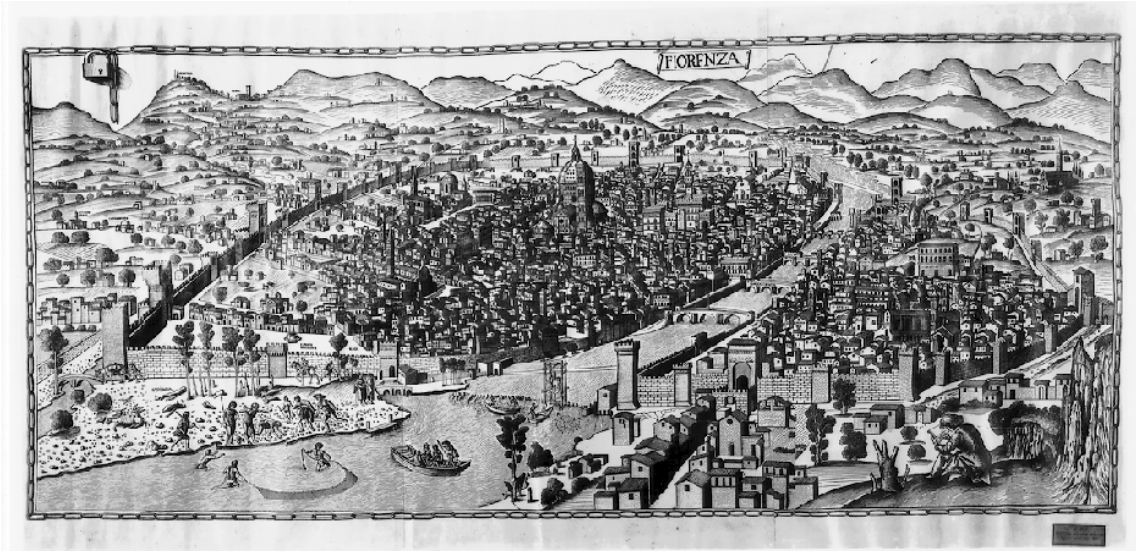

Fig. 1 Francesco Rosselli, *Map of Florence with the Chain* (ca. 1485) Uffizi, Florence.

The new concern among humanists for a realistic representation of a view or landscape in pictorial form can also be found in Leon Battista Alberti's *De Pictura (Della Pittura)* which began to circulate in 1435.[73] The work presents a technique for achieving perspective in painting which remained authoritative until late in the 1700's.[74] The significance of this technique for map-making is clear: the emphasis on faithful depiction of the earth grounding in geometrical and mathematical methods had been key themes in chorography since Ptolemy.[75] However, Alberti's work was aimed at informing painters, and its consequences for the depiction of the landscape on canvas were several and significant. Denis Cosgrove's 1985 article lays out three

[72] Rees, "Historical Links Between Cartography and Art," 62.
[73] The question as to whether the text was originally written in Latin or Italian has been at the centre of debate among scholars. The traditional view found, for example, in H. Janitschek, *Leone Battista Alberti's kleinere kunsttheoretische Schriften* (Vienna, 1877) or C. Grayson, *Leon Battista Alberti: On Painting and On Sculpture* (London, 1972) holds that Alberti first wrote in Latin and then translated the work into Italian for the benefit his less latinate contemporaries. But in the latest English edition of the piece: R. Sinisgalli, *Leon Battista Alberti: On Painting: A New Translation and Critical Edition* (Cambridge, 2011), 3–14 a number of strong arguments advocating the primacy of the Italian text have been put forward.
[74] Denis Cosgrove, "Prospect, Perspective and the Evolution of the Landscape Idea," *TIBG* 10, **1**, New Series (1985): 48.
[75] The importance of true representation of the earth for Ptolemy we have already seen in the passages previously quoted. His mathematical and geometrical approach is also underlined in the first chapter of book one of the *Geography:* Διὰ ταῦτα ἐκείνῃ [Chorography] μὲν οὐδέν τι δεῖ μεθόδου μαθηματικῆς, ἐνταῦθα [Geography] δὲ τοῦτο μάλιστα προηγεῖται τὸ μέρος.

of these consequences which are of particular importance for our purposes: Alberti shows that the form of objects and their position are relative, not fixed, and that how they appear depends on the place from where they are viewed. Following this, the artist then has the role of arranging the view. That is to say that he selects the point of view for the painting and thus how the objects viewed stand in relation to each other. Finally, for Alberti, vision is a result of rays that travel in straight lines between the eye and surface of the object being viewed.[76] The final point demonstrates what the first two infer; the viewer is literally at the centre of the space he sees:

> *Ac perscrutandum quidem est quonam pacto mutato loco ipsae superficiei inhaerentes qualitates immutatae esse videantur . . . Nam situ mutato aut maiores aut omnino non eiusdem quam hactenus fuerant fimbriae, aut item colore fraudatae superficies appareant necesse est, quae res omnes intuitu metimur*.
>
> And one must consider carefully how the innate properties of a surface seem to be transformed by a change of location . . . For with a change of location it is inevitable that surfaces appear larger or their outlines not altogether as they were before, or likewise diluted in colour, all of which are things we reckon by sight.

As Denis Cosgrove usefully puts it: 'A simple movement of the head, closing the eyes or turning away and the composition and spatial form of objects are altered or even negated.'[77] This explanation will bring the reader's mind back to Gesner's account of the view from Mount Pilatus in his *Descriptio Montis Fracti* cited at the beginning of this chapter, where the individual looking out over the landscape has a range of options of what kind of view of the mountain he would like to take in, and the eye has sovereignty over the prospect.

viii) *Pictura—Prospectus* and the Mountain in Text

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[76] For Cosgrove's analysis see "Prospect, Perspective and the Evolution of the Landscape Idea," 48-9. Alberti's explanation of the emission theory of vision is at De Pictura §5: *Nam ipsi idem radii inter oculum atque visam superficiem intenti suapte vi ac mira quadam subtilitate pernicissime congruunt, aera corporaque huiusmodi rara et lucida penetrantes quoad aliquod densum vel opacum offendant, quo in loco cuspide ferientes e vestigio haereant.*

[77] Cosgrove, "Prospect, Perspective and the Evolution of the Landscape Idea," 49.

The overlap between painting and cartography noted above occurred, then, on various levels: the terminology reveals the lack of a strong distinction between the two skills; there were individuals who were at once landscape artists and mapmakers; there is a shared ideology between the two sorts of landscape depiction; and the Perspective Revolution is central to both genres.[78] The appearance, therefore, of texts which compare the view from the mountain to a painting—just as Aretius had compared the view from the Niesen to a map—is hardly surprising. In 1566 Veronese botanist and apothecary Francesco Calzolari (Franciscus Calceolarius, 1522-1609) published his *Il Viaggo di Monte Baldo* in Venice.[79] The Latin translation was published six years later in 1571. The translation was done for the famous Sienese botanist Petrus Matthiolus (Pietro Mattioli, 1501-1577) for inclusion in his *Compendium de Plantis Omnibus* (1571).[80] The work expresses a good deal of aesthetic enthusiasm for the mountain in terms which are already familiar from the Classical tradition as well as from Gesner and Aretius:

> *Hic itaque cacumen ad sidera extollens, caeteros vicinos montes altitudine superat, atque excellit, adeo ut amoenitate, situ, pulchritudineque non sit quovis altero inferior.*[81]
>
> Here, then, lifting its summit to the stars, [Monte Baldo] surpasses its neighbouring mountains in height and it stands apart, it is even, indeed, not inferior in pleasantness, location or beauty to any other [mountain] you care to think of.

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[78] Cosgrove, "Prospect, Perspective and the Evolution of the Landscape Idea," 59.

[79] For Calzolari's life and work as an apothecary and collector in Verona see: U. Tergolina-Gislanzoni-Brasco, "Francesco Calzolari Speziale Veronese," *BSIAS* 34, no. 6 (1934): 3–20.

[80] The introductory letter to Calceolarius' translated *Iter* tells us that the work's translation into Latin would ensure its wide dispersal throughout Europe: *Opusculum meum, quod antea Italico sermone edideram, tibi Latinum factum (ut petis) mitto, cum tuo De Plantis Compendio in lucem edendum: siquidem communi hac lingua nunc conscriptum, omnibus in Europa nationibus tuo auspicio facile innotescet, cum tua mirifica monumenta per universum fere orbem circumferantur.* The Latin text cited in what follows is that of the 1571 edition in Mattioli's *Compendium*: Francesco Calzolari, 1571, *Iter Baldi civitatis Veronae Montis* in: Pietro Andrea Mattioli, *Compendium de plantis omnibus* (Venice). Calzolari's appended text is unnumbered. It follows the text of Mattiloli's *Compendium* after a space of two blank pages. I have therefore continued the numbering after Mattioli's work without counting the two blank pages. Calzolari's work runs—according to this scheme—from pp.923-935. Calzolari's dedication letter to Mattioli makes up pp.924-926 and the description of his journey begins on p.927.

[81] Calzolari, *Iter Baldi civitatis Veronae Montis,* 927. For the image of the mountain raising its peak to the stars, see *inter alia:* Petron. *Sat.,* 122 in subchapter *The Mountains and the Gods* in *Literary Heritage* above. For Horace's use of a similar image to describe his fame see: Hor. *Carm.,* I.1 in *Geographia—Geography's Rebirth in Germania* above. For Gesner's praise of the mountains' height see: Gesner, *Descriptio Montis Fracti*, 48 in *Prospectus—Gesner Frames the mountain* above. For Aretius on the mountain's *amoenitas* see below:

Calzolari remarks on the view from the top of the peak:

> *E cuius summo iugo magna cum lustrantium voluptate atque admiratione a sinistra parte furibundum spectatur flumen . . .* [82]
>
> From the highest peak of it a raging river can be viewed from the left hand side to the great delight and amazement of the observers . . .

But the first clause of Calceolarius' description of his journey and the view from the top of Monte Baldo brings a new element of aesthetic appreciation into the description of the mountain environment:

> *Visuntur quoque vicine urbes et oppida, quae adeo lucide inspicientium oculis apparent, ac si Belgici pictoris penicillo, omni cum arte ac venustate, aliqua in tabella aut potius linteo depicta spectarentur.* [83]
>
> Even towns and cities can be seen, which appear to the eyes of the viewers as clearly as if they were being viewed as depicted on some map or, rather, canvas, by the brush of a Dutch painter with all his skill and charm.

The connection between map-making and landscape art to which Calzolari alludes in this passage distils the relationship between the two genres that has been treated above in *Gaeographia et Prospectus*—Chorography becomes Art. One modern historian states the case even more clearly: ". . . zu keiner anderen Zeit und an keinem anderen Ort [hat] eine derartig große Übereinstimmung zwischen Landkarten und Bildern bestanden."[84] But what is of interest in this passage is Calzolari's comparison of the view from the mountain *to* a map or landscape painting: rather than saying that maps and paintings resemble the view from the mountain, he says that the view resembles depictions of the landscape in maps, or

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[82] Calzolari, *Iter Baldi civitatis Veronae Montis*, 927. It is interesting to note that, after the passage quoted from Alberti and the reference to Gesner's privileging of the eye, Calceolarius also emphasises the viewers in this passage in disrupting the phrase *magna cum voluptate* by inserting *lustrantium*. For this type of feeling for the view from the mountain see: Aretius, *Stocchornii et Nessi Descriptio,* 244: *Haec rerum varietas incredibiliter spectantium oculos reficit, etenim res usque adeo naturae discrepantes uno contuitu quasi in tabula profert, idque vel sedentibus.*

[83] Calzolari, *Iter Baldi civitatis Veronae Montis,* 927.

[84] S. Alpers, *Kunst als Beschreibung.: Holländische Malerei des 17. Jahrhunderts.* (Cologne, 1998): 213. Original title: *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago, 1983).

Lowland paintings.[85] The primacy of the idea of maps or landscape paintings in Calzolari's description of the pleasures of the views from Monte Baldo indicates the important role of landscape art in changing aesthetic attitudes towards the mountain.

Another description of Monte Baldo which places a corresponding emphasis on artistic representations of landscape is Joannes Pona's 1601 *Plantae, seu Simplicia, ut vocant, quae in Baldo Monte et in Via ab Verona ad Baldum reperiuntur.* Pona's work throws into sharper contrast the implied influence of paintings of landscapes over views of the landscape itself in Calceolarius' *Iter Baldi civitatis Veronae Montis.* Pona's *Plantae* was appended to Flemish botanist Carolus Clusius' (1526-1609) *Rariorum plantarum historia,* published at Antwerp in 1601.[86] Pona was—like Calceolarius—an apothecary in Verona.[87] He wrote the description of his springtime botanising excursion to Monte Baldo first in Latin.[88] It was later translated to Italian and published at Venice under the title *Monte Baldo Descritto* in 1607.[89] The piece is largely dedicated to lists and illustrations of Pona's herbal discoveries, but it also contains a record of the author's own response to the mountain's appearance. Pona's *Plantae* finishes with this sentence, which glows with aesthetic satisfaction:

> *Atque ita tandem aeterni Motoris favore pulcherrimus, foecundissimusque, naturae hortus, Mons Baldus, circulariter perspectus, et cum summa admiratione et voluptate diligenter observatus a nobis est.*[90]

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[85] The importance and influence of the early Dutch landscape painters on the artistic genre of landscape is both well-known and well researched. See for example: Michalsky, *Projektion und Imagination*; Alpers, *Kunst als Beschreibung.* already cited as well as generally: J. Wamberg, , *Landscape as World Picture*, 2 vols. (Aarhus, 2009); R. Z. DeLue and J. Elkins, *Landscape Theory* (New York, 2008); W. S. Gibson, *Mirror of the Earth: The World Landscape in Sixteenth-century Flemish Painting* (Princeton, 1989); E. S. Casey, *Representing Place: Landscape Painting And Maps* (Minnesota, 2002).

[86] Joannes Pona, 1601, *Plantae, seu Simplicia, ut vocant, quae in Baldo Monte et in Via ab Verona ad Baldum reperiuntur* in: Carolus Clusius, 1601, *Rariorum plantarum historia*, (Antwerp). Pona's text is appended to the *Rariorum plantarum historia* and runs from p.312-348. In what follows, the citations of Pona's work are from this edition.

[87] Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley CA, 1996), 180.

[88] Despite the similarities between Pona and Calzeolarius' trips, there is no evidence to support the idea that the two apothecaries accompanied each other on this occasion and that the two reports record the same excursion, as claimed in M. Ambrosoli, *The Wild and the Sown: Botany and Agriculture in Western Europe, 1350-1850* (Cambridge, 1997), 114.

[89] Francesco Pona, 1617, *Monte Baldo descritto da Giovanni Pona Veronese.* (Venice). The translation was done by Francesco's son.

[90] Pona, *Plantae, quae in Baldo Monte reperiuntur*, 348.

> And so at length and with the blessing of eternal God, the most beautiful and fruitful Monte Baldo, a garden of nature, was roundly observed and thoroughly examined by me with the greatest wonder and delight.

In his dedication letter to Clusius, Pona promises to send on some pictures of the mountain to his addressee: *Posthac vero, ac propediem (ut spero) Deo bene annuente, singularum ipsius Baldi partium imagines, ac locorum effigies depictas accipies,* 'After this, and before long (I hope) with God's blessing, you will be receiving some images of certain parts of Monte Baldo itself as well as painted pictures of some [particular] places.'[91]

Pona's passages add much to the understanding of the relationship between the discovery of the mountain's aesthetic qualities in Neo-Latin literature and contemporary ideas of visually depicting the mountain landscape on their own. However, reading Pona's *Plantae* alongside Calceolarius' *Iter*—as is suggested by the texts' contemporaneity, common subject matter and shared purpose—helps to illuminate the connection between landscape art and the mountain that they reveal. Pona writes that he will send pictures *of* sections of the mountain to Clusius. His promise of graphic descriptions of parts of Monte Baldo belongs to the tradition of chorography.[92] On the other hand, Calzolari relies on pre-conceived ideas of landscape scenes—informed by the art of the Netherlands—to describe the view from Monte Baldo to his readers. Unfortunately, Pona's *imagines ac effigies depictae* are nowhere to be found in the edition of Clusius' *Rariorum plantarum historia*. The later Italian edition makes no reference to any pictures accompanying the text or where they might be found. But early artists who were experimenting with the nascent genre of 'independent landscape', which later blossomed into the landscape painting so widely recognisable today, certainly did depict mountains and mountain views.[93] It the effect of these early landscape artists on the aesthetic appreciation of the mountain environment and its prospects—an effect which could bring a botanist

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[91] Pona, *Plantae, quae in Baldo Monte reperiuntur*, 324.

[92] *Cf.* as above in subchapter iii) Gaeographia—*The Mountain in Chorography:* Ptol., *Geo.* I.2 and Vadianus, *Rudimentaria in Gaeographiam Catechesis*, B^{v}.

[93] The term 'independent landscape' belongs to: C. S. Wood, *Albrecht Altdorfer and the Origins of Landscape* (Chicago, 1993): 9–65. Woods description of 'independent landscape' runs: "These pictures tell no stories. They are physically detached from any possible explanatory context - the pages of a book, for example, or a decorative programme. They are complete pictures, finished and framed, which nevertheless make a powerful impression of incompleteness and silence."

to describe a mountain view on artistic terms—that will be the next topic of investigation here.

ix) *Pictura*—Early Landscape Art and the Mountain

'The first independent landscapes in the history of European art were painted by Albrecht Altdorfer.'[94] Altdorfer—along with Wolf Huber and other members of the Danube School—laid the foundations of artistic landscape representation in Southern Germany and Austria at the beginning of the sixteenth century. The bibliography on landscape painting generally, and its enormous popularity in the Lowlands during the 16th and 17th centuries, is both extremely broad and detailed.[95] This extensive coverage of the genre by other scholars allows the following section to concentrate on a small collection of early landscape depictions in a pure style. This chapter's attention to the expansive topic of landscape painting is further focused by its specific interest in mountain landscapes.

It is perhaps too simplistic to claim that: "The pictorial discovery of landscape at the beginning of the sixteenth century was brought about not by mere chance just in the part of Europe which is endowed with the greatest beauties and varieties of scenery: in the mountain countries of Switzerland and Austria".[96] But it is true that artists working in the mountainous areas of Austria and southern Germany first realised the beauty of the mountains and mountain prospects as a subject worthy of treatment on its own in landscape pictures. This discovery shaped the way that the mountains and the prospects they offered began to be appreciated aesthetically. Calzolari and Pona's descriptions of Monte Baldo above provide an indication of the influence that landscape art could have on the appreciation of mountain scenery. But this development in aesthetic attitude towards the mountain environment involves an apparent paradox: it took an idea of landscape in painting to develop first in order to then bring out a feeling for landscape in nature.

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[94] Wood, *Albrecht Altdorfer and the Origins of Landscape*, 9. This chapter does not allow room for a discussion of this strong claim. But let it suffice to cite here Tietze-Conrat, E., "Das Erste Moderne Landschaftsbild," *Pantheon* 15 (1935): pp. 72–73, which offers an alternative view.

[95] See nn.77-8 above for the most useful modern contributions to the history of landscape painting.

[96] Otto Benesch, "The Rise of Landscape in the Austrian School of Painting at the Beginning of the Sixteenth Century," *KonstTid/JAH* 28, (1959): 35. Benesch's article appears somewhat circular in that it makes the underlying beauty of the Austrian and Swiss landscapes the initial reason for their depiction in landscape. This, in turn, is supposed to have uncovered their beauty!

Accordingly, it was not the beautiful mountain scenery of the Alps which first inspired artists to draw their peaks—as Benesch would have it—but rather a development in artistic sensibility which drew painters to imitate the mountain's form and only later appreciate their beauty. In order to unpack this knot of ideas and discover the role of Latin writing in the growth of aesthetic appreciation for the mountain, we will begin by considering some of the earliest and arguably most beautiful landscape pictures in Europe, as well as the men that drew them.

The two key characters in this story are Albrecht Altdorfer (1480-1538) and Wolf Huber (1485-1553). The early lives of both men are poorly recorded. Altdorfer was a native of either Altdorf or Regensburg in Germany. He certainly settled in Regensburg, where he served as a councillor and building overseer in his later life. There he died in 1538. His tombstone describes him not as an artist, but as *Baumeister*.[97] The work for which Altdorfer has achieved most renown is his *Battle of Alexander* completed in 1529 for Wilhelm IV, Duke of Bavaria. The impressive and expansive mountain landscape that makes up the larger part of background signals Altdorfer's importance for our theme.[98]

Altdorfer did not come from a wealthy family. He was the son of an artist and as such did not make his name by undertaking large public projects or infiltrating courtly circles, as was common for artists at the time. Instead, he drew attention to himself by choosing unusual subjects for his work. He worked in uncommon media and—most strikingly—he developed a recognisable signature and used it to date and mark nearly all of his work.[99] Indeed, these techniques distinguish Altdorfer's work almost entirely from his contemporaries. His independent landscape pictures—novel at the time for taking nature scenes as their only subjects—his distinctive pen-line and his signature all came together to make a statement of distinctive artistic personality.[100]

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[97] Wood, *Albrecht Altdorfer and the Origins of Landscape*, 17. For what is known of Altdorfer's life see: L. Baldass, "Altdorfer, Albrecht", in: *NDB* 1 (1953), pp. 208-212.

[98] The Latin inscription suspended in the heavens over the principal action in the work best describes its subject: *Alexander Magnus Darium Ultimum superat. Caesis in acie Persarum peditibus CM equitibus vero XM interfectis. Matre quoque coniuge liberis Darii Regis cum M haud amplius equitibus fuga delapsi, captis.* Alexander the great defeats the last Darius, with 100,000 foot soldiers killed and 10,000 horsemen slaughtered among the Persian battle line. While the mother, wife and children of Darius the King were captured, he slipped away in escape with no more than 1000 horsemen.

[99] This was also a feature of Albrecht Dürer's style, and, not unimportantly, also of Wolf Huber. Altdorfer's signature is even modelled on Dürer's: Wood, *Albrecht Altdorfer and the Origins of Landscape*, 19.

[100] Wood, *Albrecht Altdorfer and the Origins of Landscape*, 31.

About Wolf Huber's life even less is known.[101] He was born in Feldkirch in Vorarlberg, Austria, but the date of his birth and the details of his training as an artist are not recorded. He settled in the town of Passau, where by 1515 he was running a workshop and undertook a commission for an altarpiece in his hometown.[102] The first time Huber can be located with any certainty is in 1510, when the artist sketched the Schafberg at the Mondsee near Salzburg.[103]

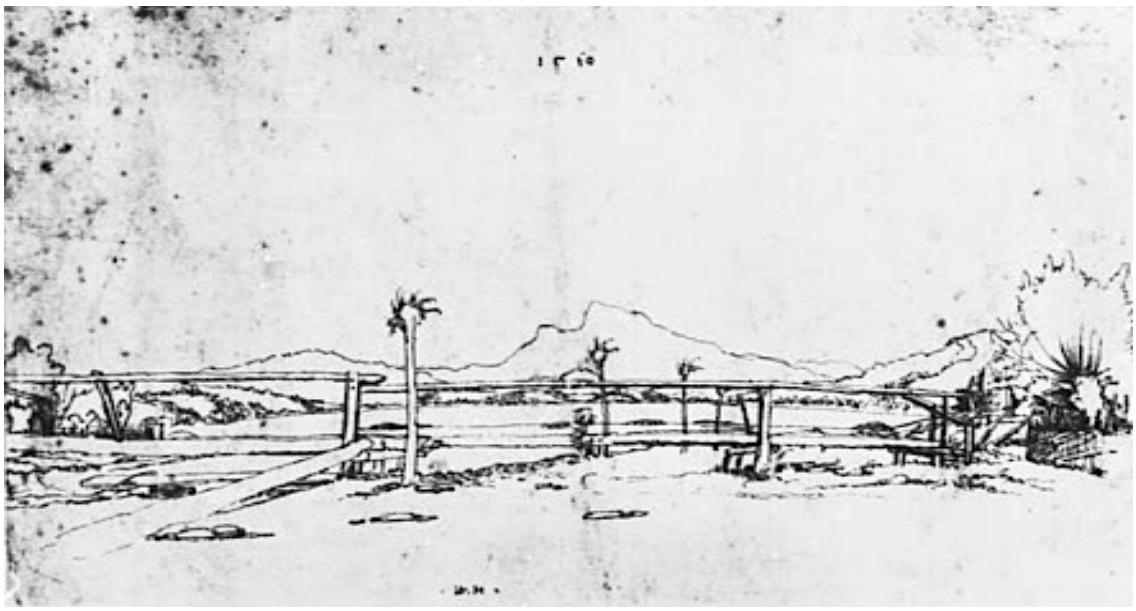

Fig. 2 Wolf Huber, *Der Mondsee mit dem Schafberg,* (1510) Germanisches National-museum, Nuremberg.

The mountain and the lake are real places. And while Peter Halm's claim perhaps romanticises the creation of Huber's drawing: 'Ein junger Mensch, gelöst scheinbar von aller Tradition, tritt aus der Werkstatt ins Freie und erlebt gleichsam seine erste Begegnung mit der Natur. Er beginnt zu zeichnen, einfach und klar, wie seine Augen die Landschaft sehen', it remains certain that the work is a topographical study of an identifiable area.[104]

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[101] What little is known is helpfully brought together in: F. Winzinger, "Huber, Wolfgang" in: *NDB* 9 (1972), 700-701.

[102] This work is the so-called *Annenaltar* (1515–21: Feldkirch, Pfarrkirche St. Nikolaus, and Bregenz, Landesmuseum)

[103] P. Rose, *Wolf Huber Studies : Aspects of Renaissance Thought and Practice in Danube School Painting* (New York, 1977), 5. The drawing, pen on paper, 12.7 x 20.6, is kept at the Germanisches Nationalmuseum, Nuremberg.

[104] P. Halm, , "Die Landschaftszeichnungen des Wolf Huber," *MünJbBK* 7 (1930): 5. Rose, *Wolf Huber Studies : Aspects of Renaissance Thought and Practice in Danube School Painting,* p.220ff, contests

The extent to which Huber's landscape work had progressed from earlier topographical art can be usefully demonstrated by comparing it to one of the larger chorographical projects that had taken place in the mountainous region of Tyrol. The Tyrol was an area known to both Altdorfer and Huber, and during the years they were active Jörg Kölderer (1465-1540) prepared a series of representations of the region for Maximilian I to accompany inventories the Emperor had made of his hunting and fishing grounds.[105] The *Jagdbuch* (1500) and *Fischereibuch* (1504)—the latter produced only six years before Huber's *View of the Mondsee*—contain numerous illustrations of mountains and mountainous areas. But even for the casual viewer Kölderer's images of the Austrian landscape are worlds apart from those of Huber and Altdorfer. The *Fischereibuch* contains a view over the Achensee, near Jenbach, Tyrol (Fig. 3), which is a helpful piece for comparison with Huber's *View of the Mondsee*. Both pictures depict a lake in Austria with a mountainous background and they were both drawn by Austrian artists within a decade of each other. Huber's more sensitive treatment of the scene and skilful use of perspective render the Mondsee landscape both more realistic-looking and more pleasing to the eye. in Kölderer's effort on the other hand the human scene of fishermen and the Royal party in the foreground

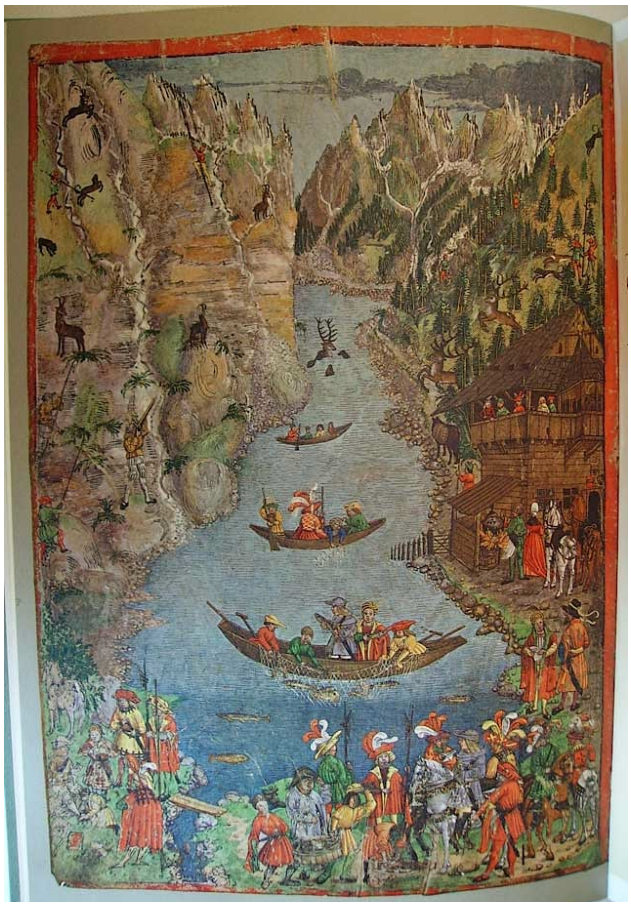

Fig. 3 Jörg Kölderer, *View of the Achensee* (1504)

Halms claims about the immediacy of the drawing and argues that the *View of the Mondsee* has been composed according to certain principles of construction, which she identifies.

[105] Benesch, "The Rise of Landscape in the Austrian School of Painting at the Beginning of the Sixteenth Century," 41. For Jörg Kölderer life and work as an artist and builder in the Tyrol see: E. Egg, "Kölderer, Jörg", in: *NDB* 12 (1979), 315.

become the centre of the composition. Both in terms of sensitivity for nature and the artistic techniques used to represent the scene Huber's landscape advances some considerable way towards what we today would recognise as a skilful and aesthetically sensitive representation of a natural scene.

With a clearer idea of the extent of shift in depiction of the mountain landscape that Huber and Altdorfer's work represents, we can now turn to consider the popularity of this type of mountain landscape image. In both number and artistic achievement, such independent mountain landscapes document the process which saw the mountain become a part of the environment worthy of aesthetic appreciation.

Fig. 4 Albrecht Altdorfer, *Sarmingstein an der Donau* (1511) Museum of Fine Arts, Budapest.

Undated, but thought to have been drawn at a similar time to the *View of the Mondsee* on the grounds of style, the paper used and the colouring, is Huber's *View of Urfahr*.[106] Once again, the mountains in this picture take up the centre of the scene. And as in the case of the *View of the Mondsee,* the scene has been identified

[106] Pen on paper, 13.3 x 14.8. Museum of Fine Arts, Budapest. For a discussion over the dating of the piece see: Halm, P., "Die Landschaftszeichnungen des Wolf Huber," 6.

with the view from the ramparts of the castle at Linz.[107] 'The views of the Mondsee and of Urfahr are still topographies. And yet at the same time they are already independent landscapes. They have begun to emancipate themselves not from the subject matter but from topography' writes Wood.[108] The same goes for two of Altdorfer's pieces from 1511. Altdorfer drew the *View of Sarmingstein* (Fig. 4) and the *Willow Landscape* on a journey along the Danube.[109]

In analogy to the emerging attitude towards the mountain in written texts, the idea of landscape—and the idea of the mountain as aesthetic subject along with it—also begins to develop in graphic art, albeit at a much faster rate. Amongst the scattered mountain landscape drawings which Huber left behind, only six can be identified with real places after the *View of the Mondsee* and the *View of Urfahr*. These are the view of Traunkirchen (1519), the view of his hometown Feldkirch (1530), the Danube Valley near Krems (1529) (Fig. 5), and the Donaustrudel at Grein (1531).[110] The *Castle* (1542) has been tentatively identified with Aggsbach on the Danube.[111]

Huber's other mountain drawings represent imaginary scenes. The existence of these imaginary views shows that the landscape idea had developed to the point of separating fully from 'real' topography. Now the idea of landscape existed as an aesthetic subject in its own right, worthy of being drawn for its own sake. It could also, crucially, be imagined as such. This is similarly true of the mountain as a feature of the landscape in its own right. The *Holzbrüke* (1528) kept in Budapest; an undated mountain landscape in Oxford; a mountain landscape of 1535 in the Goethe-Nationalmuseum at Weimar; a valley view in Berlin (undated); the 1541 mountain landscape in London, and the view from a Gorge (1552) at University

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[107] Wood, *Albrecht Altdorfer and the Origins of Landscape*, 217.

[108] Wood, *Albrecht Altdorfer and the Origins of Landscape*, 220. The *View of Sarmingstein* is pen on paper, 14.8 x 20.8. It is held at the Museum of Fine Arts, Budapest. The *Willow Landscape* is also pen on paper and a similar size: 14.1 x 19.7. It is kept at the Akademie der Bildenden Künste, Vienna.

[109] Wood, *Albrecht Altdorfer and the Origins of Landscape,* 224. It was on this trip down the Danube that scholarship proposes a meeting between the two artists, which would account for the clear influences they both demonstrate from each other and the very close timing of the developments in their work. For discussion about the chance of a meeting and the related styles of the two artists see: Wood, *Albrecht Altdorfer and the Origins of Landscape,* 219 and K. Oettinger, "Zu Wolf Hubers Frühzeit," *JbkunstSamm*, 53 (1957): 71–100.

[110] The view of Traunkirchen (1519) is part of the Koenigs Collection. The landscape view near Feldkirch (1530) is kept at the Staatliche Graphische Sammlung, München. The view of the Danube valley near Krems is kept in Berlin, the Donaustrudel at Grein in Washington.

[111] The *Lanscape with Castle* (1542) is kept in Basel. Wood, *Albrecht Altdorfer and the Origins of Landscape*, 221 n.64

College, London—drawn a year before Huber's death—are among the artist's many imagined drawings in which the mountain plays a central role.[112]

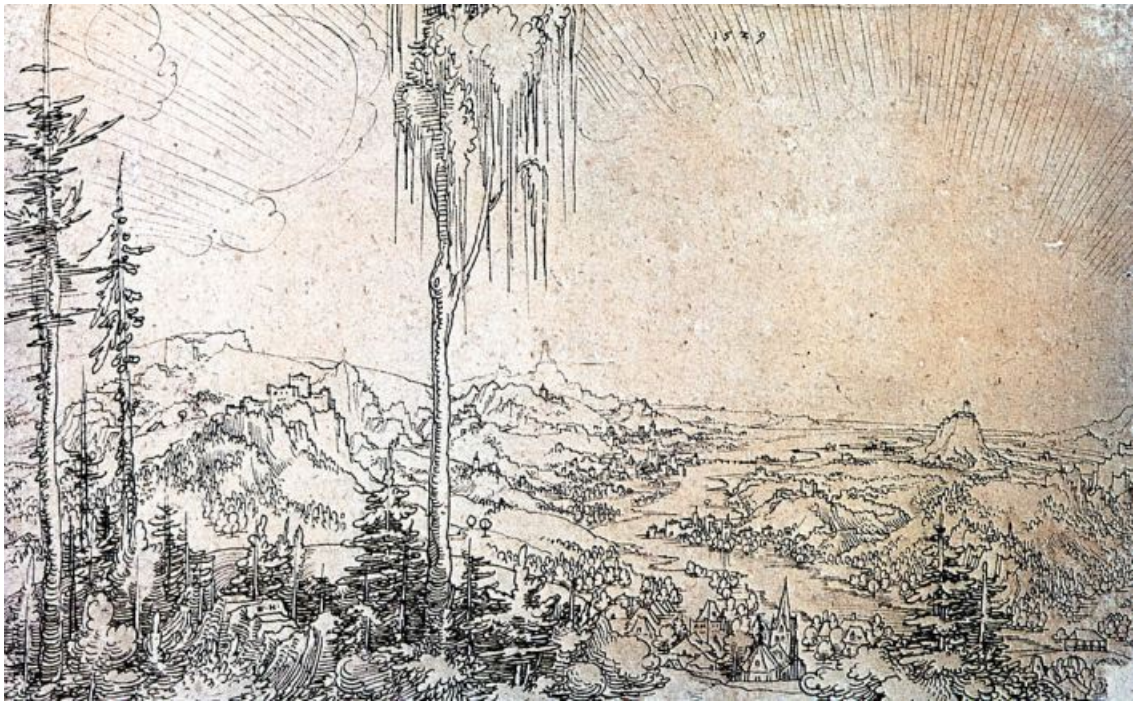

Fig. 5 Wolf Huber, *View of the Danube Valley near Krems* (1529) Kupferstichkabinett, Staatliche Museen zu Berlin.

Huber and Altdorfer's landscapes soon gained a good deal of popularity. Their drawings were copied—in particular those of Huber—more often than any of their contemporaries. Indeed, around two thirds of Huber's surviving landscape drawings have been transmitted through copies.[113] Furthermore, a number of artists were inspired by Huber and Altdorfer's brand of landscape art. While the links between the artists are often either difficult or impossible to establish, a few examples of their work will serve here to demonstrate that the idea of landscape—and in particular the idea of the mountain as aesthetic subject—had begun to spread widely. The *Landscape with Cliff* of Hans Leu the younger, Urs Graf's *Cliff* and Niklaus Manuel Deutsch's very imaginative *Mountainous Island* (Fig. 6) have similar stylistic features to Huber and Aldorfer's drawings.[114] They demonstrate a similar

[112] These images are catalogued in Halm, P., "Die Landschaftszeichnungen des Wolf Huber".
[113] Halm, P., "Die Landschaftszeichnungen des Wolf Huber," 3.
[114] Hans Leu the Younger was born in 1485/90 in Zürich and died in 1531.His *Landscape with Cliff* is dated 1513 and measures 22 x 15.8 drawn with pen on paper. It is kept at the Kunsthaus Zürich. Urs

feeling for the mountain landscape and reveal that the idea of landscape had travelled with the line-drawn style of drawing. This progress in the landscape idea in art allowed writers like Calzolari to make comparisons they did: Huber and Altdorfer's pictures established an independent landscape genre which made the mountain and mountain prospects into aesthetic concepts worth of study in their own right. Only with these concepts in mind could Calzolari later compare his views from *Monte Baldo* to landscape paintings. It is now important for the story of the aesthetic attitude shift towards the mountain to ask where this idea came from.

Fig. 6 Niklaus Manuel Deutsch, *Mountainous Island* (1515) Kupferstichkabinett, Staatliche Museen zu Berlin.

x) *Pictura*—Latin and the Rise of the Landscape Genre

Graf's (1485-1528) *Cliff* is dated 1514. It is 21.2 x 15.8 and held in Basel. Niklaus Manuel Deutsch lived 1484-1530 in Bern. His *Mountainous Island* 26 x 19.8 is in Berlin.

Scholarship has attempted to answer this question in various ways. The traditional view is that pure landscape art developed out of landscapes drawn as backgrounds for religious paintings. It was then a process of attrition which saw the religious themes become smaller and smaller until landscape backgrounds began to dominate the picture space.[115] While not attempting to oppose this broadly truthful account, other scholars have identified more specific catalysts and particular influences in art that spurred on the development of the independent landscape genre.

The art of making background pieces made for stage performances, which became increasingly popular in the Renaissance, has been proposed as one impetus for landscape art to have developed as a genre of its own.[116] According to this view, the requirement for both architectural scenes and outdoor natural scenery painted in perspective formed the basis for the development of independent landscapes. The necessity of natural scenery in the theatre finds its roots in the Classical Latin tradition, in the *De Architectura* of Vitruvius. Frequently cited in the modern literature is Vitruvius' description of the types of landscapes appropriate to the various genres of stage performance:

> *Genera autem sunt scaenarum tria: unum quod dicitur tragicum, alterum comicum, tertium satyricum. Horum autem ornatus sunt inter se dissimili disparique ratione . . . satyricae vero ornantur arboribus, speluncis, montibus reliquisque agrestibus rebus in topeodi speciem deformati.*[117]
>
> There are, however, three types of scenes, one of which is called the tragic, another the comic and a third the satiric . . . satiric scenes are decorated with trees, caves, mountains and further countryside things, in the appearance of a designed landscape.

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[115] Ernst Hans Gombrich, *Norm and Form: Studies in the Art of the Renaissance* (London, 1978), chap. 'The Renaissance Theory of Art and the Rise of Landscape': 107 citing Kenneth Clark, *Landscape into Art* (London, 1949).

[116] J. P. Hinga, "The Landscape Tradition in Italian Painting: A New Relationship," *The Southwestern Louisiana Journal* (1958): 215–225; R. Krautheimer, "Tragic and Comic Scenes of the Renaissance," *Gazette Des Beaux-Arts* 33 (1948): 327–346 cited in Rose, *Wolf Huber studies*, 212–213 in her useful summary of the theories.

[117] Vitr. V.6.9. The text of Vitruvius' *Ten Books on Architecture* follows that of F. Krohn's Teubner edition (1912).

Vitruvius' categorisation of the different types of stage background was well known in the Renaissance and Early Modern period. References to the passage appear in the most popular books on architecture during the period including Sebastian Serlio's famous *Tutte l'opere d'architettura e prospettiva* or *Architettura* published over a number of years from 1537-1575.[118] Serlio orders his treatment of theatre scenery according to Vitruvius' categories and even quotes the ancient architect when he comes to treat the satiric scene.[119] The interest in stage scenery around the end of the 15th and beginning of the 16th century, coupled with its obvious connections to architectural theory, make clear the potential influence from these topic areas on the development of landscape art. But another influence has been identified, which also leads us back to the strong impact of Latin on attitudes towards the landscape.

Max Friedländer first posited the idea of an increasing demand for paintings with independent landscape subjects at the start of the sixteenth century. This was due, he suggests, to rising levels of specialization in genres of art and an increasing taste for travel—vicarious and otherwise—among the art-buying public.[120] The explosion of information about the New World acquired through continuous exploration at the beginning of the 16th century certainly contributed to this emerging taste for travel and, in turn, also increased the number of graphic depictions of the world in the form of maps. Some of these representations were—as we have noted before in this chapter—closely related to or even indistinguishable from works of art.[121] Friedländer proposed that during this period of discovery a new, open art market—filled with artists no longer working for specific patrons but preparing work for consumption by an anonymous public—produced a level of competition that pushed painters and drawers to develop particular specialisations.[122]

It was Ernst Gombrich—by tracing Friedländer's idea backwards—who then formulated the question that would lead to a fuller explanation of the landscape

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[118] Nine books now make up the work. Six of these books were published during Serlio's lifetime. The seventh book appeared at Frankfurt in 1575 and the final two books remained unpublished until 1966 and 1994 respectively. B. Evers and C. Thoenes, *Architectural Theory: From Renaissance to the Present* (Cologne, 2003), 77. I have consulted the Paris edition (1545).

[119] *. . . per cio che Vitruvio trattando delle scene vuole che questa sia ornata di arbori, sassi, colle, montagne, herbe, fiori e fontane.* Serlio, *Architettura* II.69.

[120] Max J. Friedländer, "Landschaft, Porträt, Stillleben," in *Essays über die Landschaftsmalerei und andere Bildgattungen* (Stols, 1947), 50–58.

[121] Gibson, *Mirror of the Earth*, 49–54.

[122] Gibson, *Mirror of the Earth*, 49–54.

phenomenon: 'What type of public provided the market for this unprecedented type of painting—or to put it as concretely as possible, how could anyone demand landscape paintings unless the concept and even the word existed?'[123] Gombrich was thus able to shed light on the sudden appearance of landscape drawing among the Donauschule artists, Huber and Altdorfer, at the beginning of the 16th century—a development whose causes Friedländer had thought to be unfathomable.[124] Gombrich's explanation leads us back once again to the Latin tradition. The Classical authors supplied the Renaissance enthusiast with an idea of the category of landscape art. Artists like Huber and Altdorfer could then satisfy their growing taste for the new genre.

xi) *Pictura*—Pliny and the Category of Landscape

Pliny the Elder's *Historia Naturalis*, the great Imperial Roman encyclopaedia, gives an account of the most famous artists in painting in book 35, chapters 34 to 50.[125] It was here that the educated Renaissance or Early Modern Italian would look to find vocabulary and categories for talking about the art of his own times.[126] This search for artistic terminology went as far as identifying living artists with those that Pliny mentioned in his chapters on art history. The practice was occurring as early as the 15th century. Leonardo da Vinci—to take a famous example—is identified with a Protogenes in Florentine poet Ugolino Verino's (1438-1510) poetic description of his hometown *De Illustratione Urbis Florentinae*, first published in 1503:

> *Et forsan superat Leonardus Vincius omnes;*
> *Tollere de tabula dextram sed nescit, et instar*
> *Protogenis multis vix unam perficit annis.*[127]
>
> Perhaps Leonardo da Vinci surpasses everyone,
> But he doesn't know how to take his hand off the picture and just like

[123] Gombrich, "The Renaissance Theory of Art and the Rise of Landscape," 109.
[124] Friedländer, "Landschaft, Porträt, Stillleben,", 80: 'In den Niederlanden können wir allenfalls das Keimen und Erblühen der Landschaft als einen geschichtlichen Vorgang verfolgen, werden mindestens angeregt, es zu versuchen, vor der süddeutschen Produktion streckt der Historiker die Waffen.'
[125] Plin. *NH.* III.34 begins: *Nunc celebres in ea arte [pictura] quam maxima brevitate percurram . . .*
[126] Gombrich, "The Renaissance Theory of Art and the Rise of Landscape," 11.
[127] Ugolino Verino, *De Illustratione Urbis Florentinae,* II, 17. I have used the readily available Paris edition of 1583.

> Protogenes can hardly finish one (painting) in many years.

Here Verino refers to Pliny's account of the painter Apelles of Cos, where Protogenes appears to be the equal of Apelles in every respect, except the ability to finish a job:

> *Et aliam gloriam usurpavit, cum Protogenis opus inmensi laboris ac curae supra modum anxiae miraretur; dixit enim omnia sibi cum illo paria esse aut illi meliora, sed uno se praestare, quod manum de tabula sciret tollere, memorabili praecepto nocere saepe nimiam diligentiam.*[128]
>
> He even claimed another talent as he was looking at a work of Protogenes, the product of immense toil and careful attention above and beyond the norm. He said, in a memorable lesson, that in everything he was as good as him or even better, except in one area where he (Apelles) stood out, and that was: knowing how to take his hand off the picture; too much care is often harmful.

Pliny's archetypal landscape painter was Studius, active during the reign of Augustus:[129]

> *. . . qui primus instituit amoenissimam parietum picturam, villas et porticus ac topiaria opera, lucos, nemora, colles, piscinas, euripos, amnes, litora, qualia quis optaret, varias ibi obambulantium species aut navigantium terraque villas adeuntium asellis aut vehiculis, iam piscantes, aucupantes aut venantes aut etiam vindemiantes.*[130]
>
> . . . who first established pleasant painting on walls, he did villas, porticoes, landscape gardens, groves, woods, hills, fish pools, channels, rivers, shorelines, whatever anyone could wish, and there various views of people walking, sailing, or proceeding to their villas, on asses or in carriages, then too people fishing, trapping or even harvesting grapes.

In this passage Pliny suggests that Studius was the first to make this type of *pictura,* 'painting' popular. He comes close to saying that Studius invented the genre with his scenes. The first definite reference to a recognised genre of landscape would be left for the later Renaissance Latin tradition when Paolo Giovio (1483-1552) Italian

[128] Plin. *NH*. XXXV.36.80.
[129] The manuscript tradition also offers *Ludius* as his name.
[130] Plin. *NH*. XXXV.37.116.

physician, biographer and art critic, praised the work of a contemporary, painter Dosso Dossi (1490-1542), who belonged to the school of artists associated with the Duchy of Ferrara: [131]

> *Doxi autem Ferrariensis urbanum probatur ingenium cum in iustis operibus, tum maxime in illis, quae parerga vocantur. Amoena namque picturae diverticula voluptario labore consectatus, praeruptuas cautes, viventia nemora, opacas perfluentium ripas, florentes rei rusticae apparatus, agricolarum laetos fervidosque labores, praeterea longissimos terrarum marisque prospectus, classes, aucupia, venationes et cuncta id genus spectatu oculis iucunda luxurianti ac festiva manu exprimere consuevit*.[132]
>
> The cultivated skill of Dossi of Ferrara is demonstrated both in his proper works, but particularly in those called *parerga*. For, pursuing with pleasure the charming little diversions of painting, he used to portray in a lavish and lively style jagged cliffs, woods full of life, the shady banks of flowing rivers, the blossoming produce of the countryside and the hard but happy toil of farmers. Moreover, far distant views of lands and seas, fleets, trapping, hunting and all that type of thing pleasing to the indulgent eye he used to portray with an extravagant and lively hand.

Here Jovius refers to paintings *quae parerga vocantur,* 'which are called side-pieces.'[133] He goes on to describe these pieces as depicting the same scenes as Pliny's Studius, using the very same vocabulary in some cases: *nemora . . . aucupia* (in Pliny *aucpantes*), but at the least the same ideas throughout. We read *amnes* in Pliny, matched with *opacas perfluentium ripas* in Jovius. Pliny writes *species…navigantium,* which becomes *longissimos . . . marisque prospectus, classes . . .* in Jovius, for example. These side-pieces—or backgrounds—usually appeared as part of a traditional work depicting the more common subjects of renaissance art, such as religious scenes or portraits. But in Jovius' description Dossi is said to have been undertaking this kind of work for its own sake. Jovius distinguishes sharply between the 'proper works' *justa opera* in and the *parerga* 'side-pieces'. He almost sets them in direct opposition

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[131] On Dossi as a landscape artist see P. Humfrey, "Two Moments in Dosso's Career as a Landscape Painter," In*:* Ciammitti, L., Ostrow, S. F., Settis, S. (eds.) *Dosso's Fate: Painting and Court Culture in Renaissance Italy* (1998): 201–219.

[132] R. Meregazzi (ed.), *Pauli Iovii Opera*, vol. 8 *Elogia Virorum Illustrium* (Rome, 1972), 232. This passage is cited and translated by Gombrich, "The Renaissance Theory of Art and the Rise of Landscape," 113-114.

[133] The translation is intentionally literal from the latinised Greek παρ(ά) 'έργα to underline that in Jovius the landscapes are works 'alongside' the *iusta opera* 'proper works'.

using the construction *cum . . . tum . . .* 'not only . . . but also . . . '. In the next sentence he emphasises Dossi's (exclusive?) dedication to his landscapes: *voluptario labore consectatus* 'pursued with a pleasant effort'. The author also chooses the intensified *con-sectari* 'eagerly pursue' over its less lively sister *sectari*.

In this account of Dosso's landscape work, Jovius provides the earliest indication of the extent to which ideas received from ancient writers on art informed the interpretation of contemporary Renaissance landscapes.[134] Jovius' passage also provides evidence for the way in which the Latin tradition shaped the landscape genre which was now beginning to be recognised as an artistic category in its own right: the same features that defined Studius' landscapes for Pliny were those that define Dossi's work in Jovius. The creation and description of the new genre built on these classical categories made Huber and Altdorfer's mountain landscapes possible and, indeed, popular.

But the connection to ancient thought about artistic genre does not depend solely on Pliny's description of Studius' work. Vitruvius' description of the appropriate decoration for promenades contains many of the same ideas which appear in Pliny's description and which would later appear in Jovius' writing about landscape art:

> *Postea ingressi sunt* [the ancients]*. . . patentibus autem locis, uti exhedris, propter amplitudines parietum scaenarum frontes tragico more aut comico seu satyrico designarent, ambulationibus vero propter spatia longitudinis varietatibus topiorum ornarent a certis locorum proprietatibus imagines exprimentes; pinguntur enim portus, promunturia, litora, flumina, fontes, euripi, fana, luci, montes, pecora, pastores*.[135]
>
> Later [the ancients] began . . . to design in wide open spaces—like halls—because of the sizes of their walls, scene panels in the tragic, comic or satiric style; in promenades, on account of the length, they decorated portraying images from certain varied characteristics of landscaped places; for ports, headlands, shores, rivers, springs, straits, temples, groves, mountains, cattle and shepherds are painted.

Nor was it only Jovius and Verino who had gone back to ancient authors to find useful models to describe the art of their contemporaries. Vitruvius and Pliny's ideas

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[134] Gombrich, "The Renaissance Theory of Art and the Rise of Landscape," 113-114
[135] Vitr. VII.5.2.

are found also in Alberti's *De Re Aedificatoria* (1486), to cite another famous example.[136]

The category of landscape in general and the terms used to describe its common features can traced back, then, to classical writing on the topic. The wide influence of these ideas in Renaissance and Early Modern writing about art has underlined in the examples above. It only remains to address the particular part that the mountains play in the development of the genre and its description in Latin writing. The argument here is simple and straightforward: the mountains appear listed as a topic suitable for landscape art in every passage mentioned above: Vitruvius has his *satyricae vero ornantur arboribus, speluncis,* ***montibus***… 'satiric scenes decorated with trees, caves, **mountains**';[137] Pliny's landscape painter Studius was the man *qui primus instituit amoenissimam parietum picturam… lucos, nemora,* ***colles***… 'who first established most pleasant painting for walls… groves, woods, **hills**…';[138] Renaissance art authority Paulus Jovius described Dossi's landscape works as depicting among other natural features ***praeruptuas cautes,* 'jagged cliffs'**;[139] and Vitruvius again—in language strikingly similar to that of Pliny—recommended *lucos,* ***montes,*** *pecora*… 'groves, **mountains**, and herds' as suitable for decorating promenades.[140] The long history of the reception of these passages in Renaissance art theory meant that artists looking to specialise their skills to meet the desires of an educated consumer could chose the mountain as an independent subject for their work. Moreover, with the formation of a taste for independent mountain scenes in art, it is no surprise that its effects should be seen in written culture as well. With the influence from landscape art the mountains and their surroundings could now described in terms of 'views' and, indeed, could be directly compared to paintings. The mountain was now established as a subject in art. It was approved by the

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[136] Leon Battista Alberti, 1486, *De Re Aedificatoria*. I have referred to the readily available Paris edition of 1512. Book nine of the work is entitled *De Privatorum Ornamento.* In its fourth chapter *Quibus aedes privatae, pavimenta porticus, areae, horti picturis plantis vel statuis ornentur*, a similar discussion appears of the types of painting appropriate for various types of buildings and their rooms: *Cumque pictura et poetica varia sit, alia quae maximorum gesta principum dignissima memoratu, alia quae privatorum civium mores, alia quae aratoriam vitam exprimat, prima illa quae maiestatem habet publicis et praestantissimorum operibus adhibebitur, ultima hortis maxime conveniunt, quod omnium sit ea quidem iucundissima. Hilarescimus maiorem in modum animis cum pictas videmus amoenitates regionum, et portus, et piscationes, et venationes et natationes et agrestium ludos, et florida et frondosa.* Alberti, *De Re Aedificatoria*, 141.

[137] Vitr. V.6.9.

[138] Pliny, *NH.* XXXV.37.116.

[139] *Pauli Iovii Opera*, vol. 8 *Elogia Virorum Illustrium* (ed. R. Meregazzi): 232.

[140] Vitr. VII.5.2. *Cf.* Pliny, *NH.* XXXV.37.116.

ancient tradition and then taken up and expanded upon by Renaissance theorists and artists. The views that the mountains offer can now become the focus of our enquiry.

xii) *Prospectus*—Geography and Landscape Art come together

In the Neo-Latin texts discussed until now, the view from the mountain is always closely associated with the mountain itself. The *prospectus* that a mountain offers is frequently considered to form a large part of the mountain's aesthetic value. The prominence of *prospectus* is clear in Gesner's *Descriptio Montis Fracti*, where this chapter began. In that segment of the *Descriptio Montis Fracti* which Gesner entitled *Visus*, 'the view', he moves seamlessly between considering the view *of* the mountains and the view *from* them. From talking about the forms of the rocks and cliffs, which are to be admired for their form and size: *mirae et rarae sunt scopulorum, rupium, anfractuum, aliarumque rerum species, tum figura, tum magnitudine altitudineque admirandae*, he moves straight to the views from the mountain: *si oculorum aciem intendere, visum dispergere, et longe lateque prospicere et circumspicere omnia libeat, speculae scopulique non desunt.*[141] For Gesner, then, the aesthetic pleasure of the Alps includes both views from and of the mountains.

Similarly for Benedictus Aretius in his *Stocchornii et Nessi Descriptio*—who considered the view from the mountains a great refreshment to eyes because it presents nature *quasi in tabula* 'just as on a map'—the delights of the mountain included the view it offered from the summit alongside features of the mountain itself:

> *Non puto autem facile reperiri montem amoenitate huic parem, tum propter conspectum qui longe lateque patet, tum ob herbarum varietatem, quae sane multiplex eo monte habetur.*[142]
>
> I don't think that another mountain will easily be found to match this one in charm, both on account of the view all around which spreads far

[141] Gesner, *Descriptio Montis Fracti*, 48. See the subchapter above ii) *Prospectus*—Gesner Frames the Mountain.
[142] Aretius, *Stocchornii et Nessi Descriptio*. 242. See subchapter vii) *Gaeographia et Prospectus—Chorography becomes Art* above.

> and wide, and on account of the variety of plants, which is indeed plentiful on this mountain.

In this passage, Aretius moves without hesitation between the view and the rich variety of plants, for him both parts of the mountain's appeal. That the selection of plants offered by the mountain is considered one of the mountain's attributes is not surprising, but that the pleasant view belongs to the mountain's own list of qualities—and not to the charming layout of natural features and towns below—is worth emphasising. Aretius connects the two features in a *tum . . . tum . . .* 'both . . . and . . .' construction which makes the view as much a part of the mountain as the plant-life it supports on its slopes.

Another Swiss text, which belongs to the collection of mountain writing produced by Gesner and his colleagues, is Johannes Rhellicanus' (1478/88-1542) *Stockhornias* (Basel, 1537).[143] The text tells the story of Rhellicanus' ascent of the Stockhorn in hexameter and considerations of the view from the mountain slopes make up a significant portion of the author's enjoyment of the mountain. Rhellicanus and his group woke up before dawn to make their ascent. They dressed, breakfasted and with their walking sticks in hand they set off for the peak: *montis penetrare cacumen in altum* 'to reach the high summit of the mountain'.[144] After two meals on the road they reach the summit (and have their third meal) at line 50 of the poem:

> *Donec per scopulos, et saxa minantia tandem*
> *In iuga Stockhorni pervenimus: unde sub ortum,*
> *Stagna, lacus, torrenteis Simmae, Arulaeque fluenta,*
> *Oppida spectamus, campos, viridantia prata.*
> *Occiduas sed equos ubi Phoebus mergit in undas,*
> *Innumeros monteis speculamur, ut aequora lata.*

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[143] Johannes Rhellicanus, 1537, *Stockhornias* (Basel). The author printed the piece as an appendix to his edition of Plutarch's *Life of Homer*. Gesner printed it again in 1555 along with his description of the Fractmont. I have followed Coolidge's 1904 edition of the text, where it appears as item 14. The text's contribution to mountain writing during the period has occasionally been maligned. Gibson, *Mirror of the Earth*, 55, for example, writes of Rhellicanus': 'We will ignore the famous *Stockhorniade* published in 1537 by Johannes Rhellicanus, for it is less a celebration of scenic wonders of the Stockhorn than of the enormous quantities of food and drink consumed by the author and his friends during their ascent and return.' While it is certainly true that feasting is an important part of the excursion for the group—they stop to eat a total of five times—the evidence contained in the poem for the developing feeling for the mountain, including evidence for the feeling for scenery, cannot be ignored.

[144] Rhellicanus, *Stockhornias,* 7.

Pavimus utque oculos, stomacho latrante paramus
In medio scopuli mensam.[145]

Until at last through the cliffs and threatening rocks
We reached the top of the Stockhorn: from where we saw towards the east
Pools, lakes, the rushing streams of the Simme, the rivers of the Aare,
Towns, fields and verdant pastures.
But where Phoebus plunges his horses into westerly waves
We could see innumerable mountains, just like a wide sea.
After we had feasted our eyes, we set up a meal
Right there on the rock while our stomachs groaned.

Rhellicanus' description of the view from the top of the Stockhorn tallies with the descriptions of landscape painting topics in both the ancient tradition and in the Renaissance writing that received it. There is the usual grouping of *lacus-* 'lakes', *fluenta* 'rivers', *campi* 'fields', and *oppida* 'towns', as well as the inclusion of *montes* 'mountains'. The point for us here is that the mountain offers to Rhellicanus and his companions not only the opportunity to feast their grumbling bellies during the trip, but also their eyes. The view is a part of the mountain experience. And Rhellicanus' skilful rendering of the visual effect of a 'sea of peaks' demonstrates his sensitivity to the visual pleasures of the prospect: *Occiduas sed equos ubi Phoebus mergit in undas, Innumeros monteis speculamur, ut aequora lata.*

Another author who feasted his eyes on the view from a mountain is Johannes Pona. Pona's emphatic report of the beauty he found in the mountain has been mentioned above.[146] But now we can return to his *Descriptio Montis Baldi* to consider the extent to which the view from the mountain played a part in his aesthetic pleasure. Arriving at the Malcesine peak Pona writes:

In hoc etiam culmine, est planities satis lata herbis refertissima, ubi propter varios prospectus iucunde indagatores animum atque oculos pascunt, in hac ac circumcirca germinat frequentissime: . . . [147]

[145] Rhellicanus, *Stockhornias*, 50-57.
[146] *Atque ita tandem aeterni Motoris favore pulcherrimus, foecundissimusque, naturae hortus, Mons Baldus, circulariter perspectus, et cum summa admiratione et voluptate diligenter observatus a nobis est*. Pona, *Descriptio Montis Baldi*, 348. See above the subchapter viii) Pictura—Prospectus *and the Mountain in Text.*
[147] Pona, *Descriptio Montis Baldi,* 344. This part of the mountain now hosts the *Funivia Malcesine*, which takes visitors up to the top of Monte Baldo in a revolving cable car.

> Also on this peak there is a fairly wide plateau absolutely full of plants, where on account of the diverse views explorers can delightfully feast both their eyes and minds, here and roundabouts [the following plants] grow most frequently: . . .

Pona's goes on to list the plants that he and is fellow *indagatores* encountered on their adventure. The inclusion of the refreshing views offered by Monte Baldo in the description of the mountaintop plateau—right alongside and even mixed into Pona's usual enumeration of the plant life it also offers—highlights the fact that the author considers the view a part of the mountain experience. In the passage above this is emphasised by the way in which Pona slots his mention of the view into the middle of the account of the mountain's plants. The subject of the main clause, *planities* 'plateau'—which is of interest to Pona for being *herbis refertissima* 'replete with herbs'—is picked up again with *in hac-* 'on this [*planitie*]'. The information about the plateau literally envelops the sub-clause referring to the view *ubi . . . pascunt-* 'where . . . they feast', making it a part—and an attribute—of the mountain.

That the *prospectus* is a part of the mountain experience needs no justification for the modern mountaineer or mountain enthusiast, who only has to refer to the closest guidebooks to hand to find numerous references to the prospects offered by the peaks they climb. But the fact that the view has been an important part of the aesthetic experience of the mountain since the early days of the mountain mentality shift deserves to be emphasised here, since it has been all but ignored in the modern scholarship on this topic.

The idea of view was also integral to landscape painting. We have just read Jovius' praise of Dossi's work as a landscape painter, which included *longissimos terrarum marisque prospectus* 'far reaching views of lands and seas'.[148] It was Calzolari's view from Monte Baldo, compared to the art of Dutch landscape painters*; ac si Belgici pictoris penicillo, omni cum arte, ac venustate, aliqua in tabella aut potius linteo depicta spectarentur* 'as if being viewed as depicted on some map or, rather, canvas, by the brush of a Dutch painter with all his skill and charm', which brought us to the connection between landscape and the mountain attitude shift in

[148] *Pauli Iovii Opera*, vol. 8 *Elogia Virorum Illustrium*, 232. See subchapter xi) *Pictura—Pliny and the Category of Landscape* above.

the first place.[149] The vocabulary used by writers describing real landscapes and writers describing landscape art is remarkably similar. This we have underlined in Rhellicanus' *Stockhornias*; his *lacus-* 'lakes', *fluenta* -'rivers', *campi* -'fields', and *oppida-* 'towns' echo the lists of appropriate landscape subjects in Pliny and Vitruvius and then later in Jovius and Alberti.[150] Serlio's popular *Tutte l'opere d'architettura e prospettiva,* where the list of landscape decorations includes the standard topics *arbori, sassi,* ***colle, montagne****, herbe, fiori e fontane,* demonstrates that the standard themes for landscape art were wide spread in the Late Renaissance and Early Modern period.[151] Further evidence for the use of these standard artistic terms to describe real mountain views in the Neo-Latin tradition can be found in Aretius' *Stocchornii et Nessi Descriptio* as well. Here Aretius enumerates the natural features that he can see from the Niesen:

> *…veteres arces complures, praedia, et lacus, praeterea flumina, quarum rerum omnium uno intuitu conspectus est longe amoenissimus.*[152]
>
> …several old citadels, farms and lakes, as well as rivers. The view of all of these things in one glance is really very beautiful.

The towns, indications of agriculture, the lakes and rivers, all of which are also found in the landscape writing tradition all make their appearance here in Aretius' description of the view.

Parallel examples of views which include the standard features of a landscape *prospectus* are also found in art. Particularly pleasant landscape illustrations which conform to this model can be found in Georg Braun (1541-1622) and Franz Hogenberg's (1535-1590) *Civitates orbis terrarum* (1572 to 1617). The work was recently made available to the modern reader in a major new edition and reprint of 2008.[153] The book contains maps, views and plans of all the major cities of Europe, as well as many larger cities in the New World, Africa and Asia. It was

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[149] Calzolari, *Iter Baldi civitatis Veronae Montis,* 927. See subchapter viii) Pictura—Prospectus *and the Mountain in Text* above.
[150] *Pliny and the Category of Landscape* above as well as the beginning of this subchapter xii) Prospectus—*Geography and Landscape Art come together* above, where Rhellicanus is cited: Rhellicanus, *Stockhornias*, 50-57
[151] Serlio, *Architettura* II.69. See subchapter x) Pictura—*Latin and the Rise of the Landscape Genre* above.
[152] Aretius, *Stocchorni et Nessi Descriptio*. Aretius uses the word *conspectus,* a synonym of *prospectus* here, which the idea of *uno intuitu-* 'in one glance'. *Conspectus* carries the prefix *con-* historically related to the word *cum* and adding to the word the force of 'together' or 'at once'.
[153] Georg Braun, Franz Hogenberg (S. Füssel and R. Koolhaas eds.) *Städte der Welt* (Cologne, 2008).

designed to accompany Abraham Ortelius' (1527-1598) *Theatrum Orbis terrarum* (1570)—the high point of sixteenth century cartography.[154] The *Civitates orbis terrarum's* combination of *gaeographia, prospectus,* and *pictura* in two representations of Innsbruck and its famous mountain setting provides an ideal place to begin to draw together this chapter's key themes. The images of Innsbruck are fitting for this purpose firstly because depicting the town means also depicting its mountains, and the artist Georg Hoefnagel (1542-1600) carries out this task with skillful hand.[155] Secondly, both of the pictures do not simply show a *prospectus*, they are explicitly named as such: the title of the first image reads: *Elegantissimus a parte Orientali Oenipontis prospectus* 'A most fine view of Innsbruck from the east'. While the heading of the second picture runs: *Prospectus amoenissimus vallis Oeniponticae una cum antro in altissima et praeruptissima rupe Imperatoris Maximilliani primi* 'A most beautiful view of the Innsbruck valley with Emperor Maximillian the First's cave in the very high and sheer cliff.'

The pictures contain many of the classical markers of landscape scenery in art. Indeed, the features of the pictures of Innsbruck touch on almost all the topics mentioned in Pliny's description of Studius' landscape specialization (except of course those involving the sea, unlikely to be included in a representation of landlocked Austria's scenery); *lucis, nemora,* and *colles* feature in abundance. The river Inn flowing in the right hand side of the picture provides the *euripos, amnes* and *litora* we would expect to see. People *ibi obambulantes . . . aut navigantes terraque villa . . . , iam piscantes* appear in the town scene below the mountains. In the very foreground there are cattle frolicking, which are casually overseen by a man concentrated on a stick he is holding in his hands. This scene is perhaps more reminiscent of Vitruvius' *pecora* and *pastores,* but Pliny also imagines rural activities such as people *aucupantes aut venantes aut etiam vindemiantes.*

In another picture in the collection, Hoefnagel is pictured surveying a view of the Gaeta Gulf in Italy with Ortelius. The inscription beneath the two men reads:

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[154] Füssel and Koolhaas (eds.) *Introduction*: *Städte der Welt,* 11-12.

[155] The Latin inscription carved into a stone in the bottom right hand corner of the first panel of the two Innsbruck images reads: *Ex archetypo Alexandri Colyns effigiavit Georgus Houfnaglius* - Drawn by Georg Hoefnagel from an original by Alexander Colyns.

> *Georgius Hoefnagel elegantissimi ad mare Tyrrhenum Caietae prospectus depictor. Abrahamus Ortelius studiosus contemplator admiratorque itineris neapolitanici comes iucundissimus.*
>
> Georg Hoefnagel painter of the beautiful view from Gaeta on the Tyrrhenean sea. Abraham Ortelius, enthusiastic observer and admirer, a most pleasant companion on the trip to Naples.

With the title *prospectus depictor* and the similarities between the ancient descriptions of landscapes in Hoefnagel's *prospectus* of Innsbruck, he might be held up as a model for the late Renaissance Studius. These examples serve to illustrate that the idea of *prospectus* crossed the boundary between written descriptions of mountain views and pictures of such views. In the *Civitates orbis terrarum* the word *prospectus* comes to mean something like the modern word 'landscape'. It serves as a title for the landscape images of Innsbruck, as well as designating the specialist artistic skills of Georg Hoefnagel. The same features which make up the mountain *prospectus* in the *Civitates orbis terrarum* are those which make up the descriptions of *prospectus* in the Early Modern mountain texts we have met in this chapter.

So, *prospectus* is a part of art and it is also a part of the mountain experience. Throughout this chapter we have observed the marked increase in the interaction between these ideas in descriptions, accounts, and drawings of, as well as the views from, the mountain. We have traced the impact that this interaction had on the change in attitude towards the mountain in Latin texts during the Renaissance and Early Modern Period. Put simply, the development of an idea of landscape—the mountain as a part of the landscape—first in art, art theory and geography, and then subsequently in the minds of educated people, helped to awaken their sensibility to the beauty in the mountain as a natural feature itself and the views that it offered. The changing aesthetic attitude towards the mountain then appeared in their writing: the development in attitude towards the mountain belongs in large part to the Neo-Latin texts that have been the basis of our evidence here. The sheer number and frequency of expressions of delight over mountain views in the body of Neo-Latin texts brought together in this chapter—coupled with their temporal primacy in the story of the mentality shift—leaves little room to doubt Neo-Latin's major role in both recording and advancing the change in aesthetic attitude towards the mountain.

xiii) *Prospectus*—Pliny Concludes: A View from Tuscany

In the same way that Conrad Gesner's *Descriptio Montis Fracti* introduced our central ideas at the beginning of this chapter, an author from the Classical Latin tradition, Pliny, will serve as the basis for this chapter's conclusion. Pliny the Younger's epistle to Domitius Apollinaris describes the pleasant and salubrious setting of the author's villa.[156] The letter was written in response to his correspondent's warning about the health implications of spending the summer in Tuscany:

> *Amavi curam et sollicitudinem tuam, quod cum audisses me aestate Tuscos meos petiturum, ne facerem suasisti, dum putas insalubres. Est sane gravis et pestilens ora Tuscorum, quae per litus extenditur; sed hi procul a mari recesserunt, quin etiam Appenino saluberrimo montium subiacent.*[157]
>
> I am touched by your anxiety and concern on my behalf as you advised me not to take my summer in Tuscany, when you heard that it was my intention to do so, since you think the area is unhealthy. But though the Tuscan shore, which stretches out along the coast, is definitely oppressive and unhealthy; my property is at some remove from the sea and actually lies at feet of the Apennines, the healthiest of mountains.

Pliny's defence of his villa's location in the countryside offers much information about how the author considers the mountain environment. Just seven sentences into the letter, after considering the health implications of the region's weather, the mountains begin to take centre stage:

> *Regionis forma pulcherrima. Imaginare amphitheatrum aliquod immensum, et quale sola rerum natura possit effingere. Lata et diffusa planities montibus cingitur, montes summa sui parte procera nemora et antiqua habent. Frequens ibi et varia venatio. Inde caeduae silvae cum ipso monte descendunt. Has inter pingues terrenique colles—neque enim facile usquam saxum etiam si quaeratur occurrit—planissimis campis fertilitate non cedunt, opimamque messem serius tantum, sed non minus percoquunt.*[158]

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[156] Plin. *Ep.* V.6. Archaeologists locate the villa at the Campo di Santo Flora.
[157] Plin. *Ep.* V.6.1-2.
[158] Plin. *Ep.* V.6.7-9.

> The appearance of the area is most beautiful. Imagine a huge amphitheatre, one which only nature can create. The wide and spreading plane is circled by mountains, mountains which have ancient woods on their uppermost parts. There is often hunting of all kinds to be had there. From there, timber woods follow the mountain slopes downwards. Among these are rich earthy mounds - a stone won't easily be found even if you look for it! - which don't lose out when compared to the level plains in terms of fertility, nor do they yield a lesser harvest, even if it is later.

Pliny's chorographic description of the villa's local landscape continues to move down the mountainside towards the valleys, considering on his way the vineyards, then the meadows rich in flowers, and finally the river. The way that Pliny's treatment of the countryside moves from top to bottom recalls the way that Gesner organised his description of the view from Mount Pilatus. The accounts are similar not only in structure however, but also in the ideas they address. Gesner wrote:

> *Si oculorum aciem intendere, visum dispergere, et longe lateque prospicere et circumspicere omnia libeat, speculae scopulique non desunt.*[159]

This passage corresponds to Pliny's beginning at the top of the mountains and the way that they enclose the surrounding landscape. Gesner continues:

> *Si, contra, colligere visum malis, prata silvasque virentes aspectabis.*[160]

This phrase matches Pliny's: *Inde caeduae silvae cum ipso monte descendunt.* Gesner also then mentions the fertile meadows and rivers below, as does Pliny. But what follows in Pliny's *epistola* is what makes a comparison between the two texts even more interesting:

> *Magnam capies voluptatem, si hunc regionis situm ex monte prospexeris. Neque enim terras tibi sed formam aliquam ad eximiam pulchritudinem pictam videberis cernere: ea varietate, ea descriptione, quocumque inciderint oculi, reficientur.*[161]

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[159] Gesner, *Descriptio Montis Fracti*, 48. The passages from Gesner's *Descriptio Montis Fracti* cited here which have been cited and translated before in this chapter, are not translated again here.
[160] Gesner, *Descriptio Montis Fracti.,* 48.
[161] Plin. *Ep.* V.6.13.

> You would get a lot of pleasure if you were to look out on this layout of the region from the mountain. For you would not think you were looking at the earth, but instead at some painted form of outstanding beauty: wherever the eyes fall they are refreshed by its variety and its representation.

Not only does Pliny consider the variety offered by the view to constitute a large part of its aesthetic appeal, as does Genser:

> *Est autem cum omnium rerum vicissitudo et varietas, tum vel maxime sensibilium iucunda. Tanta vero varietas alibi nusquam, quanta in montibus, intra quidem tam breve spatium reperitur.*[162]

> There is, however, change and variety in everything as well as extremely delightful things for the senses. Indeed nowhere else is there such variety in so small a space to be found as in the mountains.

Pliny also uses the same vocabulary to describe his aesthetic pleasure in the scene. He uses *voluptas* 'pleasure, delight, enjoyment' as does Gesner in rounding up his breakdown of the sensual appreciation of the mountain:

> *Concludamus itaque tandem, ex montanis ambulationibus quae cum amicis suscipiuntur, summas omnino voluptates, et iucundissimas omnnium sensuum oblectationes percipi.*[163]

But most importantly—these linguistic similarities aside—Pliny connects the *prospectus* directly to art. And while there is no literal artistic comparison in Gesner's text, such comparisons certainly do exist in the writing of his colleagues and contemporaries. It was Calzolari's comparison of the view from Monte Baldo that brought us to a discussion of landscape art in the first place.

The relationship between the mountain and *prospectus* needs little functional explanation: it helps to be higher up to get a better view. But the fact that this aspect of the mountain experience was central to the attitude change towards has never been clearly explained or illustrated. The evidence provided by the Neo-Latin texts collected and analysed here have made such an explanation possible. The closely-knit link between the mountain and landscape art has been unpicked. It has been

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[162] Gesner, *Descriptio Montis Fracti*, 48.
[163] Gesner, *Descriptio Montis Fracti*, 50.

traced back through Late Renaissance art theory to the Classical Latin tradition. The relationship between *prospectus,* the mountain, and landscape art forms a triangle. The mountain and *prospectus* are frequently linked in the texts we have treated here. The mountain is similarly connected to art in a number of same the texts. There also exists a relationship between *prospectus* and art in general, which was demonstrated in the role of *prospectus* in Alberti's formulation of perspective technique as well as in Georg Hoefnagel's artistic *prospectus* of Innsbruck, for example.[164] These elements are all present of in Pliny's letter too, as he compares the prospect from the mountain directly to a picture.

Here again, we come back to geography and its relationship to the elements discussed in this chapter. A chorographical description of the mountain environment could take the form of a picture—a map or a drawing such as Huber's mountain scenes—or a written description, such as Aretius' *Descriptio Stocchornii et Nessi*. The theme of geography, too, helps to illuminate the parallel triangular relationship between the mountain, landscape art (or chorographic depiction) and *prospectus.* Aretius' maps that he intended to correct, Hoefnagel's descriptions of parts of the world in images and Pliny's description of his part of the world in words are all examples of this triangular relationship.

The 'landscape idea', which allows a viewer to take a section of the earth's surface and describe it in images or words, ultimately made the positive aesthetic qualities of the mountain environment available to Late Renaissance and Early Modern writers. The evidence for this effect can be found in the Neo-Latin texts which are the basis of this chapter. The texts reveal two particular *impetus* in the formation and effects of the landscape idea: geography and landscape art. The Latin language plays a central role in the development of these individual influences: on the one side in the writing of Germanic humanists attempting to write a new geography of their countries and on the other in written art theory which provided genre categories—based on classical authors—on which artists would draw. These ideas converge on the mountain in the key term *prospectus*. It is a term which is as important for geographers as it is for landscape artists: both could take advantage of the view for their interests. But *prospectus* is also important for the mountain itself because the view from the mountain was not only a key part of the mountain's

[164] Cosgrove, "Prospect, Perspective and the Evolution of the Landscape Idea," 54-56.

positive aesthetic, but views of the mountain as well were popular subjects in art as well as in chorographical description in images.

4. *Theologia et Philosophia Naturalis*

i) Introduction

The preceding chapter *Geographia, Prospectus, Pictura* showed how three fields of study—and particular movements within them—came together to construct the concept of mountain landscape. The chapter went on to show how such a landscape began to be appreciated in a positive aesthetic light. The present chapter will perform a similar synthesis of disciplines in showing how attitudes towards the mountain changed in theological and scientific texts. Just as in the first chapter, the relevant disciplines for this chapter were not as sharply distinguished as they are today. Indeed, for almost all the writers considered here the modern distinction between the two modern disciplines would have been incomprehensible. To use the ancient analogy, God's Book of Nature and his Bible were to be read together.[1]

The 'landscape idea' arose—and produced changes in aesthetic attitudes—earlier than Early Modern scientific authors began to dedicate serious thought to the mountains as natural phenomena. This is in part down to the type of mountain concept that the two movements were dealing with. The authors and artists treated in *Geographia, Prospectus, Pictura* were dealing with *real* mountains: they were either natives of mountainous countries or had had direct experience with the mountain environment. The key texts in those chapters are accounts of first-hand mountain interaction and observation. The aesthetic judgments we noted in those texts were the result of *seeing* the mountains. In contrast, however, the authors in *Theologia et Philosophia Naturalis* formed their aesthetic opinions of the mountains by *thinking*, or *theorizing* about them. While real mountains do certainly appear in these texts, their writers are consistently more concerned with the *idea* of those peaks and cliffs—and what they mean for their varying conceptions of the earth—than they are with the real individual mountains they describe.

In *Geographia, Prospectus, Pictura* the proximity of the group of writers and artists to the Alps brought them into engagement with the physical reality of nature before the philosophers and theorists came to treat the question of mountain

[1] The 'Book of Nature' metaphor first appeared in St. Augustine's *Contra Faustum* 32.20: *At si universam creaturam ita prius aspiceres, ut auctori Deo tribueres, quasi legens magnum quemdam librum naturae rerum . . .* , but the idea of studying nature as a way of acquiring divine knowledge had been around much longer. O. Pedersen, *The Book of Nature* (Vatican Observatory, 1992), 15–16.

aesthetics.[2] Certainly for many theologians and natural philosophers the perceived beauty or ugliness of the mountain was of secondary concern in their theories in comparison to their more important questions about the way mountains were formed or the purposes they served. But it is this secondary nature of aesthetic opinions in scientific and theological texts that makes them so critical for the story of the perception of the mountain. The theoretical ideas of natural philosophers and theologians about the mountains directly informed their aesthetic opinions. If the mountains were a consequence of man's Fall, as some believed, they bore the scars of sin and were inherently ugly. If the mountains were a part of God's artistry in creating the world to provide for the needs of mankind, they were a part of His perfection and therefore beautiful. Many writers also presented mixed or ambiguous opinions of the mountain's outward appearance but nonetheless contributed to a growing interest and literature about the topic.

Just as mountains in this chapter are largely theoretical mountains, so the aesthetic responses to them are generally based on theory rather than on real mountain scenes. When theory and experience come together in later texts such as Johann Jakob Scheuchzer's *Itinera Alpina* of 1723, the power of these ideas on the aesthetic attitude change can be fully appreciated.

ii) Theology and Natural Philosophy—The Disciplines and their Relationship

A text that offers a study of divinity can be said to be a work of theology: *quo uerbo Graeco significari intellegimus de diuinitate rationem siue sermonem* as Augustine clarifies.[3] A work that offers a study on, or theorizes about the natural world was called a natural philosophical text, at least before the modern word *science* took a firm hold. If study of the natural world has a central role in theological studies—in those concerning *Genesis*, for example—and God has the chief role in scientific studies—as the maker of heaven and earth—then the basic overlap between Early Modern natural philosophy and theology is easily understood. That the basic

[2] Conrad Gesner's correspondents were all Swiss, or born in or around the Alps. Celtis' plea for more interest in the physical geography of the German speaking lands found its most vigorous response in Switzerland. Austrian born artist Wolf Huber along with his contemporaries Altdorfer and Dürer all travelled through the Alps and based works on what they saw, while the Italian apothecaries who found treasures for their profession on the slopes of Monte Baldo lived in Verona in the foothills of the Italian Alps.

[3] *De Civitate Dei* VIII.1

reading for students of natural philosophy during the sixteenth to eighteenth centuries were the first chapters of *Genesis,* alongside Aristotle, provides ample evidence for the close relationship between the disciplines.[4]

This view of the connection between the two branches of learning—although essencially correct—oversimplifies somewhat the unsettled relationship between them. This is the story of the changing attitude towards the mountain, not a history of Early Modern science and theology. But insofar as the motors of the attitude shift towards the mountain can be found in the turbulent space between theology and natural philosophy, it will be important for this chapter to establish a more nuanced view of the connections between them.

Early historiographers of science conceived of theology and natural philosophy as polemically opposed. The very titles of two of the principal works on the subject at the end of the nineteenth century give an unambiguous indication of their position: the *History of the Conflict between Religion and Science* of J. W. Draper and A. D. White's *A History of the Warfare of Science with Theology in Christendom*. Their authors conceived of the relationship between science and religion in a simple dualistic scheme. Science represented truth and rationality, while Religion was aligned with deception and absurdity. While some cases in the development of Early Modern science certainly fit this pattern—perhaps the Galileo Affair would be the first that springs to mind—more recent scholarship has consistently steered away from this idea of opposition.[5]

A more moderate way of thinking about the interaction of science and theology in the Early Modern period has been to see them as working in harmony. This replaces the more traditional story of a battle between the two disciplines resulting in a triumph for the cool logic of science with a story of mutual influence and progress. This is also the way that most Early Modern natural philosophers and

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[4] G. L. Davies, *The Earth in Decay: a History of British Geomorphology, 1578-1878* (American Elsevier Pub. Co., 1969), 10. For the modern terms 'science' and 'scientist' and their history see*:* S. Ross, "Scientist: The Story of a Word," *Ann. Sci.* 18 (1962): 65–85.

[5] J. W. Draper, *History of the Conflict Between Religion and Science* (New York, 1874); A. D. White, *A History of the Warfare of Science with Theology in Christendom* (New York, 1896). An introduction to the massive bibliography on Galileo and his conflict with the Catholic Church see *inter alia* the classic works: M. A. Finocchiaro, *The Galileo Affair: A Documentary History* (Berkeley CA, 1989); P. Redondi, *Galileo Heretic* (Princeton, 1989) and R. S. Westfall, *Essays on the Trial of Galileo* (Vatican Observatory, 1989). A helpful commentary on the historiography of the relationship between science and theology can be found in Margaret J. Osler, "Mixing Metaphors: Science and Religion or Natural Philosophy and Theology in Early Modern Europe," *Hist. Sci.* 36 (1998). Particular reference to the conflict metaphor is made on pp. 94–95.

theologians thought of their work. Theologians commenting on the early chapters of *Genesis* believed they were offering explanations of the earth's topography, while natural philosophers believed that study of nature brought mankind closer to knowledge of God. Newton, to take a famous example, expressed this concept in his *Scholium Generale*:

> *Hunc cognoscimus solummodo per proprietates eius et attributa et per sapientissimas et optimas rerum structuras et causas finales, et admiramur ob perfectiones; veneramur autem et colimus ob dominium. Colimus enim ut servi, et deus sine dominio providentiale, et causis finalibus nihil aliud est quam fatum et natura . . . Tota rerum conditarum pro locis ac temporibus diversitas, ab ideis et voluntate entis necessario existentis solummodo oriri potuit . . . Et haec de deo, de quo utique ex phaenomenis disserere ad philosophiam naturalem pertinet.*[6]
>
> We know Him only by his most wise and excellent contrivances of things and final causes; we admire him for his perfections, but we reverence and adore him on account of his dominion. For we adore him as his servants; and a God without dominion, providence and final causes is nothing else but Fate and Nature . . . All that diversity of natural things which we find suited to different times and places could arise from nothing but the ideas and will of a Being necessarily existing . . . And thus much concerning God; to discourse of whom from the appearances of things does certainly belong to Natural Philosophy.[7]

In addition to believing that discourse about God belonged to natural philosophy, Newton saw it as a natural philosopher's duty to acquire knowledge about divinity, as he makes clear at the end of his *Optica*:

> *Nam quatenus ex Philosophia naturali intelligere possimus, quaenam sit prima rerum causa, et quam potestatem et ius ille in nos habeat, et quae beneficia Ei accepta sint referenda; eatenus officium nostrum erga Eum, aeque ac erga nosmetipsos invicem, quid sit, per lumen naturae innotescet*.[8]

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[6] The *Scholium Generale* was appended to the second edition of the *Philosophae Naturalis Principia Mathematica* in 1713. It was revised and expanded for the third edition of the *Principia* in 1726. I have used this amended and more detailed version here. The passage cited here can be found on page 529.

[7] The translation is that of Andrew Motte of 1729, *The Mathematical Principles of Natural Philosophy by Sir Isaac Newton.* trans A. Motte. (London). Andrew was the brother of Benjamin Motte, publisher of this first English Translation of the *Principia.* This passage appears on pages 391-2.

[8] The *Opticks* was first published in English as: Newton, I. 1704, *Optiks: or, a Treatise of the Reflexions, Refractions, Inflexions and Colours of Light* (London). A Latin translation followed in 1706: *Optice: sive*

> For as far as we shall know by natural Philosophy what is the first Cause, what Power he has over us, and what Benefits we receive from him, so far our Duty towards him, as well as that towards one another, will appear to us by the Light of Nature.[9]

While the Early Modern writers themselves saw no reason to separate out theological concerns from natural philosophy, nor *vice versa*—provided that the new philosophy did not overtly contradict received doctrine—another group of modern scholars have seen fit to segregate the two disciplines without the polemics of the conflict scheme. Although Galileo seemingly opted for this way of presenting his work—it allowed him to take the heat out of his quarrel with the Church, remain a loyal Catholic and pursue his new physics all at the same time—this segregation model, just as the conflict model, has come under criticism for painting theology and natural philosophy as separate entities. Instead of this, scholars have preferred to refer to notions of appropriation and translation to describe the relationship between theology and natural philosophy. This group of modern thinkers argues that the two disciplines make their own way to knowledge of divinity, one through the study of nature and the other through the study of religious material and practice, but both exhibit a continuity of concepts and thought at a deep level.[10] It is with this idea of a continuity of concepts between the two disciplines that the theological and natural philosophical texts which follow in this study will be treated.

The significance of this continuity of ideas for the shift in attitude towards the mountain in natural philosophical texts lies in that it helps to explain the crucial role that theology played in the way that authors conceived of the mountain even in the context of what would now be classed as a scientific work. The ease with which a religious concept or position could move over into Early Modern natural

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Reflexionibus, Refractionibus, Inflexionibus et Coloribus Lucis Libri Tres. trans S. Clarke and J. Moore (London).

[9] The original English is from the 1706 London edition, Book III, p. 381. For an overview of Newton's Theology and Natural Philosophy in article format see: S. D. Snobelen, "To Discourse of God: Isaac Newton's Heterodox Theology and His Natural Philosophy," in *Science and Dissent in England, 1688-1945*, ed. P. Wood (London, 2004).

[10] For a criticism of the segregation metaphor, as well as 'appropriation' and 'translation' see Osler, "Mixing Metaphors," 100–107. For more on the idea of continuity of thought between theology and science *v.* Francis Oakley, "Christian Theology and the Newtonian Science: The Rise of the Concept of the Laws of Nature," *Church Hist.* 30, 4 (1961): 433–457.

philosophical debate—and the weight it then carried in discussion—cannot be understated.

iii) Natural Philosophy, Mountains of the Mind and Aesthetics

Explicit references to aesthetic terminology can be found throughout the literature of natural philosophy, even those most concerned with theory. Descartes warned his reader at the beginning of the third book of his *Principia* that:

> . . . *ut attendentes ad infinitam Dei potentiam et bonitatem ne vereamur nimis ampla et pulchra et absoluta eius opera imaginari.*[11]
>
> . . . as students of the infinite power and goodness of God we should not fear imagining his works to be too great, beautiful or perfect.

Copernicus did not hesitate in imagining the object of his astronomical studies to be of the utmost perfection:

> *Principio advertendum nobis est, globosum esse mundum, sive quod ipsa forma perfectissima sit omnium, nulla indigens compagine, tota integra: sive quod ipsa capacissima sit figurarum, quae compraehensurum Omnia, et conservaturum maxime decet: sive etiam quod absolutissimae quaeque mundi partes, Solem dico, Lunam et Stellas tali forma conspiciantur.*[12]
>
> First of all we must note that the universe is spherical, either because it is the most perfect shape of all, needing nothing to hold it together and being a whole, or because the sphere is the most spacious of figures, which is best suited to a figure which encloses and protects everything: or even because those most perfect parts of the universe, the sun I mean, the moon and the stars, are found to be of this shape.

And Tycho Brahe was hostile to Copernicus' new astronomy, in part, on aesthetic grounds. He saw that Copernican astronomy required enormous distances between

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[11] R. Descartes, *Principia Philosophae*, III, 56. In what follows, I have used the clear and readily available copy of the 1656 Amsterdam edition available electronically: Descartes, R. 1656, *Principia Philosophiae* (Amsterdam).

[12] N. Copernicus, 1543, *De Revolutionibus Orbium Coelestium*, (Nuremberg). These are, indeed, the opening words of Copernicus' revolutionary work. In 1514, Copernicus first circulated privately an outline of his thesis on planetary motion, but he did not publish the *De revolutionibus orbium coelestium,* which contained his mathematical proofs until 1543.

the stars and the earth. These distances did violence to his aesthetic notions about the universe; they seemed to him monstrous and absurd:

> *Modum enim quendam et competentem proportionem in his servare decet: ne in infinitum res devolvatur, utque debita admittatur Creaturarum et visibilium rerum quo ad magnitudinem et distantiam, symmetria: quam sane servare oportet cum Deus universitatis Autor, ordinem competentem, non confusionem et ataxian, amet.*[13]
>
> It is necessary to preserve in these matters some decent proportion lest things reach out to infinity and the just symmetry of creatures and visible things concerning size and distance be abandoned: it is necessary to preserve this symmetry because God, the author of the universe, loves appropriate order, not confusion and disorder.

Aesthetics and aesthetic terminology can be found frequently, then, in natural philosophical writing. In two of the three examples above a theological or natural philosophical idea demonstrates the beauty of the phenomena it attempts to explain. In the example from Brahe the opposite is true: a theory is rejected because it makes the phenomenon appear too ugly and malproportioned to be plausible. For the aesthetics of the mountain, this second type of aesthetic inference from theology or natural philosophy is the most important. It is worth lingering, however, on the other ways in which aesthetics come into natural philosophical writing because these will also play a role in the mountain story to follow.

Aside from the effect of a natural philosophical theory making a natural phenomenon appear beautiful or ugly, the theory itself might be referred to in aesthetic or quasi-aesthetic terms. This is the case when, for example, a solution to a problem is 'economical', or to use the language of the *Lex parsimoniae*, 'parsimonious'. Theories are frequently described as 'elegant' or 'neat', just as is the case when Brahe describes Copernicus' astronomy in comparison to that of

[13] T. Brahe, 1610, *Astronomiae instauratae progymnasmata* (Frankfurt). This text here follows the modern edition of the work: *Tychonis Brahe Dani Opera omnia*, ed. J. L. E. Dreyer, vol. 2 (Copenhagen, 1913), 435. The translation is that of A. Blair, "Tycho Brahe's Critique of Copernicus and the Copernican System," *JHI* 51, 3 (1990): 364. For the aesthetic context of Brahe's critique of Copernican astronomy see*:* J. Brooke and G. Cantor, *Reconstructing Nature: The Engagement of Science and Religion* (Cambridge, 2000), 212.

Ptolemy. Brahe may not have liked Copernicus' results, but he found the modern theory *longe concinnior* 'far more elegant' than the ancient systems.[14]

Another way in which natural philosophy comes into contact with aesthetics is in the diagrams and drawings that accompany explanations of theory or natural phenomena. In these cases a theory that makes for a pleasing representation of the phenomena to be explained might be favored over one not suited to graphic depiction.[15]

These points of contact between aesthetics and natural philosophy or theology serve not only as a way of judging or forming hypotheses, they were also a part of the rhetoric of these disciplines' literature. The rhetorical effect is already apparent in the citations above from Descartes, Copernicus and Brahe. Descartes' rising tricolon *ampla, et pulchra et absoluta eius opera* shows that there were stylistic benefits to addressing aesthetics in natural philosophy as well as using substantive arguments.[16] This was a crucial part of supporting the argument from design which Brahe summed up in his phrase above: *Deus universitatis Autor, ordinem competentem, non confusionem et ataxian, amat.*[17] If God created the world—as he surely did for Renaissance and Early Modern theologians and natural philosophers—the result must have been perfection. Observations or theories that challenged the aesthetics implied in this belief were either rejected or had to be explained by assuming some level of degeneration or decay in the universe that had damaged God's originally perfect system. A third way to deal with parts of nature—or hypotheses about her—that did not fit into the accepted aesthetic framework was to change that aesthetic. It is the process of this changing aesthetic, and the factors involved, that this chapter will consider.

iv) The Mountains and their Origins—*l'état de question* 1561

[14] Brahe, *Tychonis Brahe Dani Opera omnia*, ed. Dreyer, vol. 7, 88.
[15] The three types of aesthetic involvement with science and theology outlined here are identified and explained in N. Jardine, *The Scenes of Inquiry: On the Reality of Questions in the Sciences* (Oxford, 1991), 208–9. For an example of the role of diagrams on the aesthetic considerations of nature, see the following chapter *Aesthetics of Nature*.
[16] Descartes, *Principia Philosophae*, III, 56. For the role of rhetoric and aesthetics in natural philosophy see: Brooke and Cantor, *Reconstructing Nature*, 185–7.
[17] Brahe, *Astronomiae instauratae progymnasmata*, 435.

It will be useful to have an overview of the various ideas concerning the origins of the mountains, their uses and processes in the Late Renaissance and Early Modern period before considering their implications for the aesthetics of the mountain. The reader will be spared a dry outline of these topics in my own words by the first ever work given over entirely to the question of the origins of mountains in Europe. The *De Montium Origine* was printed in Venice in 1561. A thin work in quarto format, the book was the last to be published by the Accademia Veneziana, whose short existence ended in the same year as the book's birth. It draws heavily on the ancient and mediaeval traditions of natural philosophical knowledge about the mountains and thus bridges the gap into Early Modern mountain research. Very little is known about its author, Valerio Faenzi (Valerius Faventies), except that he was a Dominican Friar born around 1525.[18]

The *De Montium Origine* is dedicated to the Bishop of Feltri, Philip Maria Campegio. The format of the piece is that of a dialogue between two characters Rudolphus and Camillus. Rudolphus is the main speaker and it is with his voice that Faventies formulates his hypotheses about the origins of mountains. The dedication letter to Campegio, sent *ex amoenissimis Ascanianis Montegolii collibus* 'from the very lovely Ascanian hills of Montegallo', contains just about as many allegorical mountains as the author could find space for. The third sentence of the letter captures the figurative tone of the mountain references that make up the adulatory epistle:

> *Neque silentio praetereundum est, te saepenumero in divinarum contemplationum excelsissimum iugum conscendere: in quo iuxta prophetae vaticinium, habitare beneplacitum est altissimo Deo illuc enim ascendis, ut, ex nectareo fonte haustis doctrinae sacrae suavissimis aquis, ex ore tuo, tamquam ex montibus excelsis, lacus et flumina ad irrigandas incultas hominum mentes defluant*.[19]

[18] The work has been the subject of growing interest over the last two decades. After its first appearance complete with translations of selected parts in an English work: F. A. Adams, *The Birth And Development Of The Geological Sciences* (Baltimore, 1938), it now has a modern edition with Italian translation and commentary: Paolo Macini and Ezio Mesini, eds., *Sull'origine delle montagne* (Verbania: Tararà, 2006). Further analysis of the work has been done in: Dal Prete, I., "Valerio Faenzi e l'origine dei monti nel Cinquecento veneto," in *Johann Jakob Scheuchzer (1671-1733) et la découverte des Alpes: les Itinera alpina*, ed. Boscani Leoni, S., Éditions du Comité des Travaux Historiques et Scientifiques (Paris, 2008), 197–214 and Campanale, M. I., *Ai Confini del Medioevo Scientifico: Il De Montium Origine di Valerio Faenzi* (Bari, 2012).

[19] I have used the Latin text of Macini and Mesini, *Sull'origine delle montagne* (2006) cited above, as the latest modern edition of the piece. The English translation is my own.

> One should not forget to mention that you frequently ascend to the very highest ridge of divine contemplation where, in accordance with the prediction of the prophet, it has pleased our Highest God to live. You climb up there so that when you have drunk the sweetest waters of sacred doctrine from that honeyed fountain, lakes and rivers might flow down from your mouth, just as from the highest mountains, to water the uncultivated minds of men.

In the paragraphs before the dialogue begins, the scene is set for the speakers' conversation to take place. Rudolphus and Camillus are moved to their consideration of the origins of the mountains by the view over Lake Garda:

> *. . . consedimus, unde spectantibus vastas oculis pergratas Benacus undas ostentat. Inde vero se attollunt partim declivia, et amoena, partim perquam horrida iuga supra Benacum. Mirandum igitur opus naturae cum diu essemus admirati, placuit de montibus an aliquando et qua de causa facti sint, familiariter disputare.*
>
> . . . we sat down where Garda shows its huge and pleasant waves to our watching eyes. From there mountains rise up above Garda, in places gently sloping and pleasant and in others extremely frightful. So when we had marveled at this work of nature and admired it for a long time, we decided to discuss the mountains, when and how they were made.

With this, the *De Origine Montium* all but abandons direct aesthetic considerations of the mountain. The following dialogue sticks rigidly to its proposed topics and leaves assessments of the beauty of the mountains themselves almost out of the matter. Marjorie Nicolson's claim that 'this little book was written by a man who loved the romantic scenery of his native district' relies solely on the passage quoted above and the words at the end of the dedication stating the work's provenance to be the hills of Montegallo.[20] Nicolson's statement should not be taken uncritically. The anachronistic idea of a man in love with *romantic* scenery cannot stand because the dialogue focuses completely on the ten theories about the existence of mountains which Rudolphus and Camillus debate. Romance is out of the question as the speakers knuckle down to 16 leaves of natural philosophy, but the artistry and

[20] Nicolson, *Mountain Gloom and Mountain Glory*, 175.

power of the processes that formed the mountains occasionally attracts the eyes and imagination of the speakers.

Rudolphus leads into his first hypothesis about the creation of mountains by providing a definition of a mountain:

> *Montes, doctissimo Boccatio teste, terrarum eminentiae sunt, non aeque tamen exsurgentes, nonnulli saxei, quidam terrei. Qui in sublime magis efferuntur saxei, omnes qui vero humiliores, fere semper terrei.* [21]

> Mountains, the most learned Boccaccio says, are elevations of the earth. They do not rise in an equal manner, however. Some are made of rock, including almost always those that are highest. All those that are lower, however, are always made of earth.[22]

This simple definition impinges little on Rudolphus' first proposed idea, but as Camillus politely comments 'it would be silly to omit anything that pertains to what is being considered'.[23] After this short preamble the dialogue moves on to the first proposed cause for the creation of the mountains: earthquakes. *Tanta est enim potentia terraemotuum, ut insulae quaedam fuerint enatae* asserts Rudolphus, 'for such is the power of earthquakes that some islands have even appeared.'[24] He refers to the evidence of Pliny, Aristotle and Seneca for his claims about the power of earthquakes to produce mountains and raise islands out of the sea. This reliance on classical authorities, the careful naming of each within the text and their frequent citation is a chief characteristic of the *De Montium Origine.* The principal authority throughout the work is Aristotle, whose influence on the Renaissance and Early Modern writers about natural philosophy will come into clear focus as this chapter progresses.

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[21] Faenzi, *De Montium Origine,* 13.

[22] The work by Boccaccio referred to is the *De montibus, silvis, fontibus, lacubus, fluminibus, stagnis seu paludibus, et de nominibus maris liber*, finished in 1364. It is a catalogue of the geographical places mentioned in the classical authors compiled, he says, to help readers who too easily confuse the names of mountains for rivers, for example. Boccaccio begins with mountains because on their sides grow the forests, and then he lists the forests for in the forests spring the fountains and the rivers have their sources, from them collect the lakes, and so on, down to swamps. The definition of a mountain in Boccaccio, which Faenzi repeated very closely, runs: *Sunt igitur, ut liquido patet, montes terrarum eminentiae quaedam in caelum, non tamen aeque surgentes, et ex his aliqui saxei, nonnulli terrei sunt. Qui in sublime magis efferuntur, saxei omnes, qui vero humiliores persaepe comperiuntur fere semper terrei . . .* I have used here the readily available 1473 Venice print of the work.

[23] *. . . aliquid praetermittere, quod ad rem pertinere arbitreris, absurdum esset.* Faenzi, *De Montium Origine,* 13.

[24] Faenzi, *De Montium Origine,* 13.

Camillus accepts the role of earthquakes in producing mountains and transforming the topography of the earth in general. But he struggles to imagine that the bigger and more renowned mountains were formed randomly by earthquakes. This is primarily on account of their height and the important functions they perform:

> *Assentior, terrae motibus montes alios exoriri: quod vero sublimiores hoc pacto coalescant, maximam mihi admirationem movet. Atlas propter altitudinem, machinam coeli sustentare dicitur; Olympus ita excelsus est, ut nubes excedat: de quo Lucanus, 'nubes excedit Olympus'.*[25]
>
> I agree that some mountains arise because of earthquakes, but that the higher mountains develop in this way is a source of wonder for me. Atlas is said to hold up the workings of the heavens on account of its height; Olympus is so high that it exceeds the clouds, Lucan says just that about it: 'Olympus goes beyond the clouds'.

But it is also because Camillus sees a pattern in the arrangement of the mountains:

> *Est Apenninus, sunt Pyrenaei, quos terrae motibus fuisse congestos, valde difficile videtur, praecipue quoniam sunt aliqui similes aquae fluctuanti, unusque magnitudine, ordine, loco alteri succedit, haud secus quam si mirabili quodam artificio dispositi fuissent.*[26]
>
> There are the Apennines and the Pyrenees, which it seems very difficult to believe were piled up by earthquakes particularly because they are to some extent similar to waves in water as one follows on another in size, arrangement and position, in a way no different than if they had been arranged by some wondrous artistry.

The *artificium mirabile* he perceives in the arrangement of these mountain ranges make it seem unlikely that the directionless power of an earthquake could have created them. The uncontrolled energy of an earthquake is suggested by *congerere*, a word found among classical authors to describe objects heaped together.[27] It is

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[25] Faenzi, *De Montium Origine*, 20. The reference to Lucan can be found at *Bellum Civile,* II.272

[26] Faenzi, *De Montium Origine*, 22. The idea of the mountains appearing to a viewer like waves in the sea also appears in Rhellicanus' 1537 *Stockhornias* (Basel), which is treated in the previous chapter. As the walkers reach the top of the Stockhorn they look out on lines 54-5: *Occiduas sed equos ubi Phoebus mergit in undas / Innumeros monteis speculamur, ut aequora lata.*

[27] In the case of weapons, for example: *congestis telis* of Tac. *Ann.,* II.11; or perhaps more appropriate: *congerite, cives, saxa in infandum caput,* Sen. *Oed.,* 871.

contrasted here with *disponere*, a regular word for arranging items. Camillus senses a need for some orderliness in the proposed earthquake theory to correspond to the orderliness he has observed in the layout of the mountains.

Rudolphus does not attempt to reject Camillus' observation on the apparent artistic arrangement of the mountains, but he does offer another explanation. He claims that the rippled effect of the mountains' arrangement was created before the formerly more fluid earth solidified: *sicuti, vento suaviter flante, undae maris ordine quodam moventur admirabili* 'just as the waves of the sea are moved in a certain marvelous order when a soft breeze blows.' This early liquid state of the earth is explained in Aristotelian terms: *siquidem sensibilia, vegetabiliaque et illa etiam omnia, quae carent animabus, quattor ex elementis composita sunt* 'in fact, sensible beings, things capable of growth, as well as everything else which lacks a soul, are all made up of four elements'. In contrast to the celestial sphere, these elements are never found *simplicia* 'plain' or *pura* 'pure' in the sub-lunary sphere where the earth is located, *sed omnia simul . . . commixta* [*sunt*] 'instead everything is mixed together'. The earth, then, can become wet and more fluid, depending on the particular mixture of the elements.[28]

Rudolphus' treatment of the elements leads him to his next proposal for the cause of the mountains:

> *Terra, quae suapte natura sicca est, cum admiscetur aquae, et ceteris elementis, quosdam in tumores accrescit; qui postquam induruerunt, montes evadunt.*[29]
>
> When earth, which by its own nature is dry, is mixed with water and other elements, it rises in lumps which later harden and result in mountains.

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[28] The general doctrine of the four elements is laid out *inter alia* in Ps. -Aristotle's Περὶ οὐρανοῦ III-IV, amd Arist. Περὶ γενέσεως καὶ φθορᾶς II.1-6 and the Μετεωρολογικῶν I.2. The numerous (49) spheres are distinguished at τὰ μετὰ τὰ φυσικά XII.viii.9-14. In the Μετεωρολογικῶν they are broadly divided into two groups: the Celestial (lunary) and Terrestrial (sub-lunary), the distinguishing factor being the fifth element, aether (I.2) The mixture and interchange of the elements in the terrestrial (sub-lunary) sphere is dealt with at Μετεωρολογικῶν I.3 as well as at, for example, Περὶ γενέσεως καὶ φθορᾶς II.4. Macini and Mesini have a helpful note on this: 97 n. 49.

[29] Faenzi, *De Montium Origine,* 28. The word *tumor* to describe a mountain appears with strong negative connotations in Thomas Burnet's *Telluris Theoria Sacra* (1684). For Burnet and his text see below: viii) *The Burnet Controversy and Mountain Aesthetics in Natural Philosophy.* In Faenzi's text here it does not carry this association. Rather, it retains its more literal meaning 'a swelling' (*cf. tumeo,* to swell, inflate) which makes good sense in this context.

From here the conversation moves on to the question of what force causes the mountains to rise: *sed quaestio est, quid illum sit quod montes conglobare valeat.* Camillus asks the leading question: *Quid de aeris elemento suspicaris?* 'What do you suppose about the element air?' Rudolphus' reply refers back to the ancient discussion over how the earth's land stayed afloat in the sea. Specifically, he seems to have in mind an argument made in book six of Seneca's *Quaestiones Naturales*. Here the Roman writer expresses his skepticism over Thales of Miletus' belief that the land is buoyed by the waters of the sea. Instead, he prefers the theory that air is trapped inside the earth *in laxos specus* 'in wide caverns' and that the land rests on these giant pockets. In Seneca's work the arguments in favor of air go towards supporting his theories about earthquakes. In Faenzi's text the air inside the earth causes the land to swell in parts *et montes facti sunt.*[30]

The next theory is that fire makes the mountains. Camillus had wanted to explore the possibility that water has some role to play in shaping the peaks, but the topic is deferred until later in the text. As with the proposal for air, the force required to create the mountains is thought to come from inside the earth. Fire trapped under the surface of the globe makes the earth, which by this point in the text we know to be composed of a mixture of wet and dry elements, boil up like water. *Pulchra similitudo* 'a nice analogy' says Camillus, but how does this result in mountains? Rudolphus answers:

> *Si igitur partes terrae bullientes actione alicuius extrinseci durescant, remanent montes. Cum vero antequam induruerint, ignem deficere contigit, repente corruunt et apparent abrupta montium, ruinaeque, igne nonnunquam egrediente.*[31]
>
> If the boiling parts of the earth harden by the effect of some external cause, they remain as mountains. But if the fire were to give out before they set firm, the mountains suddenly fall and so precipitous parts of the mountains appear, and the steep cliffs, with fire sometimes coming out of them.

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[30] Seneca rejects Thales' hypothesis at *Qu. Nat.* VI.6.1. He proposes that air inside the earth supports the land and causes earthquakes at VI.24.2. Macini and Mesini note the sources of Faenzi's third theory on p. 101 n.67. In general the idea that the earth was porous and pitted internally with hollows and caverns was widespread among theorists until very recently. Only in 1936 was it first famously hypothesized by Inge Lehmann that the earth's inner core might be solid. Some of the theories and ideas about the mountains that will be discussed later on in this chapter will be seen to involve inner-earth chambers and chasms.

[31] Faenzi, *De Montium Origine,* 39-40.

Natural philosophical writing about volcanoes and reports of their eruptions are clearly behind this hypothesis. Rudolphus says as much when he mentions Pliny's death at the hands of Vesuvius in his list of examples where fire is associated with the mountain. Aesthetically the important words here are *ruinae* 'ruins' and *abruptus* 'steep', or literally 'broken off'. Both of these terms will reappear in later natural philosophical and theological writing about the mountain and often in similar contexts to the one in which it is found here: as part of a description of an incomplete process or one gone awry.[32]

The fifth hypothesis on the formation of mountains is that they have a soul which makes them grow. Rudolphus describes the mechanics of this process in analogy with the 'pustules' *pustula* or 'lumps' *tubercula* that erupt on the skin of animals or humans if they are ill. The concept of a 'soul'—or life-force—which is the essence of any living thing, is familiar from Aristotle. But for Rudolphus' argument it is only necessary to establish that mud—out of which the mountains are formed—has no generative or nutritive properties which could contribute to their growth.[33] He can therefore conclude at the end of his discourse that: *non* (*enim*) *montes generant semetipsos* 'the mountains do not produce themselves.[34]

Despite his rejection of the theory, Rudolphus' exposition highlights several features of the later mountain debate significant for our aesthetic theme. The words *pustula* and *tubercula* are part of the vocabulary of disease and illness. On a

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[32] Particularly fond of the vocabulary of ruin is Thomas Burnet in his *Telluris Theoria Sacra,* London 1684 in viii) *The Burnet Controversy and Mountain Aesthetics in Natural Philosophy*, below. But it also appears in other writers who are less obviously obsessed with the idea of the mountains as appalling and broken, see *e.g.* N. Stenonis, 1669, *Prodromos De solido intra solidum* (Florence): 31 on the collapse of the strati resulting in the landscape of the Tuscan Hills. Steno's text is treated in the following chapter 5. *The Aesthetics of Nature* under the subchapter ix) *Steno and Leonardo: the Tuscan Hills.*

[33] Aristotle provides a defintion of his concept of the soul at Aristot. *De An.* II.1 [412a-b]. According to his description of the soul, there are five sub-types: Τῶν δὲ δυνάμεων τῆς ψυχῆς αἱ λεχθεῖσαι τοῖς μὲν ὑπάρχουσι πᾶσαι, καθάπερ εἴπομεν, τοῖς δὲ τινὲς αὐτῶν, ἐνίοις δὲ μία μόνη. δυνάμεις δ' εἴπομεν θρεπτικόν, αἰσθητικόν, ὀρεκτικόν, κινητικὸν κατὰ τόπον, διανοητικόν. Aristot. *De An.* II.3 [414a]. The nutritive force (θρεπτικόν) is the first order of soul and the most commonly found. It belongs to all living things: ἡ γὰρ θρεπτικὴ ψυχὴ καὶ τοῖς ἄλλοις ὑπάρχει, καὶ πρώτη καὶ κοινοτάτη δύναμίς ἐστι ψυχῆς, καθ' ἣν ὑπάρχει τὸ ζῆν ἅπασιν. Aristot. *De An.* II.3 [414a]. It's effects are reproduction and generation. A living being possesed of the nutritive force will produce a being the same as itself: ἧς ἐστὶν ἔργα γεννῆσαι καὶ τροφῇ χρῆσθαι· φυσικώτατον γὰρ τῶν ἔργων τοῖς ζῶσιν, ὅσα τέλεια καὶ μὴ πηρώματα ἢ τὴν γένεσιν αὐτομάτην ἔχει, τὸ ποιῆσαι ἕτερον οἷον αὐτό, ζῷον μὲν ζῷον, φυτὸν δὲ φυτόν, ἵνα τοῦ ἀεὶ καὶ τοῦ θείου μετέχωσιν ᾗ δύνανται. Since mud has no nutritive, generative or reproductive power, it has—to follow Rudolphus' argument—no soul (ψυχὴ). The mountains, then, do not produce themselves and a ψυχὴ is not responsible for their existence or growth: *Augumentum deductio maioris quantitatis est, per conversionem alimenti factam. Caeterum, quia lutum, quo fiunt montes, simili modo non convertitur, ideo, montes augeri, nemo sanae mentis compos opinabitur. Generatio denique rei dicitur productio similis ipsi generanti.* Faenzi, *De Montium Origine,* 46.

[34] Faenzi, *De Montium Origine,* 48.

superficial level they make for unpleasant mountain images at least, but within the paradigm of the macro- and microcosm—according to which the human body is a smaller model of the whole earth and her processes—the deterioration we experience in the human body is imputed into the state of the earth as well. Thus, the moral and physical decay destined for man after his Fall also affects the earth. According to some theorists, the earth was a victim of mankind's punishment after the Fall and she now exists in an 'infected' state. The extent to which the earth's surface had been affected by mankind's sin and God's retribution was a sticking point in theological discourse. We will return to this difference in theological thought in two commentaries on *Genesis* below.[35]

It is Camillus who proposes the next reason for the mountains to have risen: the powerful effects of celestial bodies. The pair begin by referring to Pliny's beliefs about the influence which the stars and moon have over the earth. Rudophus' response to Camillus' suggestion is, indeed, an adaptation of two passages on the power of celestial bodies in the *Historia Naturalis.*[36] Pliny presents here the idea that the moon is responsible for swelling matter on the earth. The sea, inanimate objects and even humans absorb her rays. This swelling accounts for the rising of the tides and lunacy in some humans and animals who are unfortunate enough to have a brain susceptible to swelling. But Rudolphus dedicates most time to elucidating the effects that the moon has on water and what the results of these processes on the earth's surface are. He explains erosion thus:

> *Aquis igitur propter huiusce causas agitatis, terra concutitur, atque turbatur; et paulatim fiunt effossiones profundae, donec fiat vasta profunditas, secus quam terrae magna relinquitur eminentia. Nam huius elementi quaedam partes molles, aliae durae sunt. Molles aquae ductibus, ventisque tolluntur, remanent autem firmiores; quae tandem longitudine temporis duriores factae, montes assurgunt.*[37]
>
> So when the waters have been excited by the effects of these things [the celestial bodies] the earth is shaken and stirred up; and in a short time deep ditches are created until one vast hole appears. Accordingly, great sections of earth are left behind and stand out because some parts of that

[35] In the subchapter *Aesthetics in Theology: Commentaries on Genesis,* I consider the aesthetic responses to the mountains in Genesis in Protestant Martin Luther's *Enarrationes in Genesin* and Jesuit Benedictus Pereius' *Commentariorum et disputationum in Genesim tomi quattuor.*
[36] Faenzi, *De Montium Origine*, 52-4. The passages from Plin. *Nat. Hist.* II.221 and 212-13 are cited in Macini and Mesini's notes 121 and 122.
[37] Faenzi, *De Montium Origine*, 58.

> element are soft while others are hard. The soft parts are removed by currents in the water and by the wind. The firmer parts, however, remain. These are made even harder over the course of time and rise as mountains.

Now Rudolphus continues on to his seventh proposal about the origins of mountains: the effects of water. His thoughts on this topic include the important observation that rivers have their sources in the mountains.[38] Rudolphus' language in the passages on water is among the most descriptive and atmospheric in the *De Montium Origine*. Rudolphus composes a dramatic and threatening mountainous landscape as he explains the power of running water to create holes and crevices, as well as the valleys between mountains:

> *In visceribus terrae sunt specus vasti, recessus ingentes et spatia suspensis hinc inde montibus lapsa: stagna quoque locis amplis et tenebris obsessa: sunt abrupti in infimum hiatus, qui saepe illapsas urbis receperunt, et ingentem ruinam condiderunt quae omnia ab aquis presertim fieri certum est. Inter montes eadem causa profundissimae conspiciuntur valles, in quibus apparent indicia decurrentium aquarum.*[39]
>
> In the bowels of the earth are immense chasms, huge recesses and collapsed areas overhung by mountains; there are also pools of water in wide, dark places. There are sheer crevices beneath, which have often absorbed cities which have slid down into them and which falled down in enormous catastrophe. All of this is certainly done by the waters. The deepest valleys between the mountains, in which traces of waters running down appear, are visible for the same reason

The internal earth that Rudolphus describes is that of Seneca's *Quaestiones Naturales* III.16.4-5. Rudolphus quotes the passage word for word. The notion of a cavernous subterranean system within the globe is present in much of the later writing about the earth and theories about its composition. In the next section of this chapter, Berhard Varenius will revisit the ruin of the inner world. The Jesuit polymath Athanasius Kircher (1602—1680) made a systematic investigation of this *mundus*

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[38] *Aquas vero montium origini conferre, proterea existimo, quoniam maxima flumina ex montibus erumpunt. Tygris et Euphrates ex Armeniae montibus effluunt: Geon ex monte Rasim, qui est in India: Rhodanus, et Rhenus, de monte Septimo: Danubius ex alpibus egreditur . . .* Faenzi, *De Montium Origine*, 60.
[39] Faenzi, *De Montium Origine*, 60.

subterraneus, publishing his results under just that title between 1664 and 1678.[40] In the *De Montium Origine,* Rudolphus relates his ideas about the power of water to carve out a mountainous landscape to a specific landscape: he mentions the valley connecting Verona and Trento in northern Italy. Here, he says, the power of water to shape the environment is clear from the flatness of the land between the hills.[41] While Seneca goes on in the original work to describe the beasts and blind fish that live in this massive and terrifying underworld, Rudolphus says he has often stopped to contemplate *hoc opus naturae praeclarum* 'this splendid work of nature':

> *Nunc fluvius exiguus vallis profundum irrigat; qui suo veluti artem imitante cursu, eos colles aquis erectos speculantibus indicat*.[42]
>
> Now a shallow stream of water quenches the bottom of the valley; [the stream] which, with its course that almost imitates art, shows to spectators those hills have been raised by the waters.

The dissonance between the fearful atmosphere that Seneca creates in his description of a cavernous underworld and Rudolphus' admiration for the same type of landscape in Trentino is typical of the *De Montium* in general. In addressing the various ideas on how the mountains came to be, Faenzi creates a gap between the substance of the theories themselves and the aesthetic concerns of the sources—such as Seneca—that he uses. The same goes for the personal observations he brings into his work. In the *De Montium Origine*, aesthetic concerns are secondary. The fact that there is a clash here between Faenzi's personal aesthetic opinion of a landscape shaped by water and the aesthetic feeling in Seneca's original explanation of water's force is a result of the primary position that natural philosophical thought occupies in the *De Montium Origine*.

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[40] I have seen the third edition of 1678 *Mundus subterraneus, in XII libros digestus : quo divinum subterrestris mundi opificium, mira ergasteriorum naturae in eo distributio, verbo [pantamorphon] Protei regnum, universae denique naturae maiestas & divitiae summa rerum varietate exponuntur, abditorum effectuum causae acri indagine inquistae demonstrantur, cognitae per artis & naturae coniugium ad humanae vitae necessarium usum vario experimentorum apparata, necnon novo modo & ratione applicantur* (Amsterdam). Kircher famously had himself lowered into the crater of an active Vesuvius as part of the research for the work. In it, he offers the thesis that the mountains form, literally, chains around the earth holding together the crust.

[41] *Si quis enim Verona Tridentum proficiscatur, qua Athesis decurrit, planitiem totam aquarum currentium impetu factam esse coniiciet.* Faenzi, *De Montium Origine,* 62.

[42] Faenzi, *De Montium Origine,* 62.

Rudolphus and Camillus deal with the eighth proposition—wind—quite quickly. Rudolphus sums up his claim in four words at the beginning of his response to Camillus' opening question on the theme: *Spiritus enim movet omnia* 'For wind moves everything'.[43] He goes on to adduce evidence from the older writers Isidore of Seville and Sallust before concluding:

> *Quamobrem, cum ventorum tanta potentia sit, aliquando novos erigunt montes, aliquando erectos planitiei reddunt aequales*.[44]
>
> So then, since the winds are so powerful, sometimes they raise up new mountains, other times they reduce those they have stood up to the level of the plains.

The ninth possible cause for the mountains to have risen is water vapour. The process here, as Rudolphus explains it, depends on the evaporation of water trapped inside the earth by the heat of the sun. This either forces the earth to crack, if the water vapour can find a way to escape. Or, if there is no way out, it lifts up the earth and forms a mountain.[45] The idea that there is water trapped inside the earth is important for several later theories of the earth, especially that of Thomas Burnet, who imagines water trapped in subterranean caverns breaking out of the earth's crust to flood the earth as part of his explanation of the Great Deluge.[46]

As the pair begin to draw their discussion to a close, Camillus proposes the tenth and final cause for the mountains:

> *ne aliquid penitus desit, utrum montes fuerint a summo rerum omnium artifice creati, cum coelum creavit, et elementa, inquisitione dignum existimatur.*[47]
>
> So that nothing is absent [from our discourse] it is worth inquiring whether the mountains were created by the Supreme Craftsman when He created the heavens and the elements.

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[43] Faenzi, *De Montium Origine,* 64.
[44] Faenzi, *De Montium Origine,* 66. Macini and Mesini track down and cite the references to Isidore of Seville and Sallust in notes 154 and 155: Rudolphus quotes Isid. *Etymol.,* XIII.1.1 and Sal. *Iug.,* LXXVIII.3.2 respectively.
[45] Faenzi, *De Montium Origine,* 66-8.
[46] For Burnet and his theory see subchapter viii) *The Burnet Controversy and Mountain Aesthetics in Natural Philosophy* below.
[47] Faenzi, *De Montium Origine,* 68.

Rudophus congratulates Camillus for his piety. He had feared that his companion had perhaps been reading too much natural philosophy.[48] Indeed, Rodulphus accepts theory ten without hesitation, so the discussion focusses on one detail of God's creation of the world and the mountains in it:

> *Altissimum res omnes fecisse confirmo: hoc unum, an montes sint terrae coevi, nosse percupio.*[49]
>
> I'm certain that He on high made all things. But this one thing I want to know: are the mountains the same age as the earth?

The same question continued to occupy theologians and natural philosophers until Moses' account of Creation in *Genesis* lost its place as the geologist's primary text.[50] Bernhard Varenius' *Geographia Generalis* sets out the broad difference in scholarly positions on this topic in the following section.[51] Rodulphus' conclusion anticipates the scepticism with which Varenius' 1650 overview of the debate closes. The ideas to which Faenzi refers in the central passage on this topic in the *De Montium Origine* appear repeatedly in the following pages of this chapter. For its use as an introduction to these themes, I will quote his lines here in full:

> *Nonnulli autumant, summum artificem terram ex omni parte rotundam sine montibus, vallibusque creasse, qui postea propter varias inundationes aquarum diversis surrexere temporibus, ita ut ante primum diluvium montes non fuerint. Hoc tamen inter illorum, et meam sententiam interest: nam, quod primo loco docuerunt, fateor et ipse, immo non solum principio rerum terram fuisse, sed et nunc etiam esse rotundam existimo. Montes autem nullos ante diluvia extitisse, tum rationibus, tum auctoritati divinae repugnare, infra ostendetur.*[52]
>
> Some think that the Supreme Architect created the world round all over without mountains or valleys. These then rose up afterwards after various

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[48] *Gratulor, erudite Camille, quoniam Deum summum rerum omnium artificem appellas. Suspicabar enim, quibusdam cum philosophis eo te in errore versari, ut Deum auctorem rerum negares, creationisque nomen reiiceres.* Faenzi, *De Montium Origine,* 68.
[49] Faenzi, *De Montium Origine,* 70.
[50] Nicolson's account of this discussion in *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite* (Ithaca NY, 1959)—in particular Chapter Two: *The Theological Dilemma* and Chapter Four: *The Geological Dilemma*—remains the most detailed and cogent attempt to trace the varying strands of thought involved in the debate. This is despite the serious lack of attention to Latin texts which this thesis, in part, aims to remedy.
[51] See the next subchapter: v) *Biblical Positions—Genesis on Mountains and Berhardus Varenius.*
[52] Faenzi, *De Montium Origine,* 70.

> floods and at different times, so that before the first flood there were no mountains. But my opinion differs from theirs as follows: I agree with what they have shown in the first place. In fact I agree not only with the first part of what they say—that the earth was round at the beginning—but I even think it still is round. However, the idea that there were no mountains before the floods disagrees with both reason and divine authority, as will be shown below.

The attempt to calculate when the mountains were created from the text of the Bible became one of the central topics for discussion in the debate over the mountains in theology and natural philosophy—despite Rodulphus' confidence in the paragraph above. The scarcity of references to the mountains in *Genesis*—as we will see below—gave thinkers room to devise elaborate theories about the time and manner of their appearance. The aesthetic ideas of the authors behind these theories were frequently influential in shaping the types of processes and mechanisms they imagined for the creation of the mountains. One such 'aesthetic' was the belief, presented by Rodulphus here, in the primeval roundness of the earth. I will show below, for example, how Josephus Blancanus in his *Sphaera Mundi* described the topography of the earth and its mountains in terms of a warping of the perfectly spherical original globe.[53] Johann Jakob Scheuchzer on the other hand, with whom this chapter will close, perceives the mountainous landscape of his Swiss homeland as God's design as its best, and thus subscribes to the idea of a carefully crafted, mountainous, original earth.[54] Noah's flood, perhaps the most catastrophic and widespread of biblical events, provided thinkers with a mechanism for the massive and global changes that their theories required. This is the case for Blancanus and Burnet among others, while for natural scientists like Scheuchzer, the flood provided a convenient explanation for the mysterious phenomena they encountered in their research. Similarly, for theologians also considering the earth's topography, the flood could either be a punitive force large enough to change and scar the face of the earth forever, or simply a phenomenon that added the finishing touches to God's creation.

Faenzi's text concludes economically. The speakers exchange two paragraphs on the reasons for the variety in the sizes of the mountains and a further

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[53] See subchapter: *A Smooth Primaeval Earth—Josephus Blancanus* below.
[54] See subchapter: *Scheuchzer's* Itinera Alpina *and the Changed Mountain Aesthetic* below.

two on the creation of valleys and plains. Camillus then thanks Rodulphus for his brevity in outlining such a range of ideas and the dialogue closes, the book with it.

The *De Montium Origine* does not stand out for its dynamic or progressive views on the mountains—and certainly not for the aesthetics of the mountain. But it is remarkable for being the first book in Europe to be dedicated solely to the mountain. As such, it acts as a weathervane for the mentality change that was gathering momentum in the years surrounding the book's publication.[55] It is also a useful text for the way in which it draws together contemporary thought on the mountain in the period and as such has served as an introduction to the ideas we will now meet in the texts to come.

v) Biblical Positions—Mountains in *Genesis* and Berhardus Varenius

The argument from design and its aesthetic concerns had considerable influence on the shift in perception of the mountain. It has its beginnings, like the rest of the world, in the Creation. The key text for theologians and natural philosophers alike on this topic was Moses' hexaemeron described in the first chapters of *Genesis.*

The Bible has its own internal arguments for the authority of scripture: *omnis scriptura divinitus inspirata,* begins 2 Timothy 3:16. And natural philosophers throughout the 16th and 17th centuries were keen to emphasise its central place in their theories. Thomas Burnet (1635—1715), a key figure for the literary history of the aesthetics of the mountain, could write almost off-hand in the opening pages of his *Telluris Theoria Sacra*: *Sunt autem monumenta sacra, unde primorum saeculorum historiam praecipue haurire licet,* 'But there are the sacred histories, from which in particular one may draw out the history of the first ages.'[56] While among theologians Calvin had placed scripture on a par with the very word of God:

> *Sed quoniam non quotidiana e caelis redduntur oracula, et scripturae solae extant quibus visum est Domino suam perpetuae memoriae veritatem consecrare: non alio*

[55] The central Swiss texts addressed in Chapter Two *Geographia, Prospectus, Pictura* were all published within two decades either side of the *De Montium Origine.*
[56] T. Burnet, 1694, *Telluris Theoria Sacra,* (London), I: p 3.

> *iure plenam apud fideles authoritatem obtinent, quam ubi statuunt e caelo fluxisse, acsi vivae ipsae Dei voces illic exaudirentur.*[57]
>
> But because there are no daily words delivered from heaven and the scriptures alone are where God saw fit to commit his truth to eternal memory, the faithful do not comprehend their full authority in any other way than when they are held to have come down from heaven, as if they were heard as the actual words of God.

As far as the mountains are concerned, natural philosophical authors largely saw two possible explanations for the current topography of the earth in *Genesis:* the first and most straightforward explanantion was that the mountains were shaped and carved out by God on the third day of creation. The relevant biblical passage runs:

> *[9] Dixit vero Deus congregentur aquae quae sub caelo sunt in locum unum et appareat arida factumque est ita. [10] Et vocavit Deus aridam terram congregationesque aquarum appellavit maria et vidit Deus quod esset bonum.*[58]

The principal problem with this idea lies in the fact that mountains are not actually mentioned in these key verses. The account does not explicitly deny the existence of mountains, however. And they first appear only six chapters later in the story of Noah and his ark:

> *[18] Vehementer inundaverunt* [*sc. aquae*] *et omnia repleverunt in superficie terrae porro arca ferebatur super aquas. [19] Et aquae praevaluerunt nimis super terram opertique sunt omnes montes excelsi sub universo caelo. [20] Quindecim cubitis altior fuit aqua super montes quos operuerat.*[59]

The ark floated on the floodwaters for 150 days before coming to rest on the seventeenth day of the seventh month *super montes Armeniae* 'on the mountains of Armenia'. The floodwaters then slowly receded until—on the first day of the tenth month—the tops of the other mountains could first be seen. A further 40 days later,

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[57] J. Calvin, *Institutio Christianae Religionis*, I.7.1. For the text here I used the fifth edition published in Geneva in 1559. This is edition is held to be the definitive Latin version of the work: W. Greef, *The Writings of John Calvin: An Introductory Guide* (Westminster, 2008), 198.

[58] *Gen.* 1:9-10. As in the Bible section of Chapter One, I have used here Fr. Michael Hetzenauer's text of the *Biblia Sacra Vulgatae Editionis Sixti Quinti Pontificis Maximi iussu recognita atque edita,* the 'Clementine Vulgate'.

[59] *Gen.* 7:18-20.

Noah opened the window of the ark. He first sent out the raven—and later the dove—to find land.[60] The appearance of the mountains in connection with the Flood allowed natural philosophers and theologians to theorize that it was the Deluge itself which was responsible for changing the topography of the earth. Here lay the second biblical explanation for the creation of the mountains.

Berhardus Varenius (1622—1650), German geographer and natural philosopher, gave an overview of the broad difference in opinion over the origins of the mountain in the Creation story in his *Geographia Generalis* which was first published in 1650 at Amsterdam. The work was popular and widespread among the scientific community.[61] It went through numerous editions, of which the two revised by Sir Isaac Newton in 1672 and 1681 for the University of Cambridge are particularly noteworthy.[62] Varenius understood geography as a category of mixed mathematics (applied mathematics); a discipline of metaphysical natural science. In his own words:

> *Geographia dicitur scientia Mathematica mixta, quae Telluris, partium illius affectiones a quantitate dependentes, nempe figuram, locum, magnitudinem, motum, coelestes apparentias, atque alias proprietates affines docet.*[63]
>
> Geography is a mixed mathematical science that teaches about the Earth, its states derived from quantity, namely its shape, place, size, motion, the appearance of heavenly bodies and other related qualities.[64]

This makes the *Geographia Generalis* a much broader work than might be expected from a modern geographical study, especially with regard to the depth of

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[60] These events takes place in *Gen.* 8:1-12. The *montes Armeniae* of the Vulgate are the Mountains of Ararat. The Greek and Hebrew texts of *Genesis* 8 give the name Ararat, and the *Nova Vulgata* now prints '*montes Ararat'* instead of '*Armeniae'.*

[61] Nicolson, M. H., *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite* (Ithaca, NY 1959), 175; Davies, *The Earth in Decay*, 35; William Warntz, "Newton, the Newtonians, and the *Geographia Generalis Varenii*," *Annals of the Association of American Geographers* 79, **2** (1989): 171.

[62] I cite in what follows from the 1693 Cambridge edition, a reprint of the second Newtonian revision of 1681.

[63] Varenius, *Geographia Generalis,* Lib. I, cap. 1, prop. 1. The division of Geography into the smaller fields of General and Special Geography had taken place in the work of Bartholemew Keckermann. His *Systema Compendiosum totius mathematices, hoc est, Geometriae, Opticae, Astronomiae, et Geographiae* (Hannover, 1617) sets out the differences between the disciplines. J. N. L. Baker, "The Geography of Bernhard Varenius," *TIBG* 21 (1955): 57.

[64] For the term 'mixed mathematics' and its relationship to other Early Modern philosophical disciplines see: Gary I. Brown, "The Evolution of the Term 'Mixed Mathematics'," *JHI* 52, (1991). The diagram on p.82 is particularly useful.

engagement with questions of natural philosophy. Varenius deals with larger questions about the earth in general in the opening chapters of the book. Chapters three and four, for example, consider the shape of the earth: *De Telluris Figura,* and the size and measurement of the earth: *De Telluris Dimensione et Magnitudine,* respectively. He then shifts his focus to more specific features of the earth's topography. Mountains are treated in chapters nine and ten: *De Montibus in genere et dimensione altitudinis* and *De Montium Differentiis etc.*

As the heading suggests, much of chapter nine is dedicated to calculating the height of mountains. Here Varenius contributes to the long Greek geodetic tradition by providing extensive explanations of his method for measuring the heigh of mountains. This includes two pages of diagrams.[65] In chapter ten, Varenius demonstrates a wide knowledge of the world's peaks and mountain ranges. *Propositiones* one to five read like a catalogue of famous mountain chains, individual peaks and volcanoes. *Propositio* one begins in Europe with the Alps, but quickly moves on to a short description of the Andes and the ranges of China. In all of these accounts and lists, however, aesthetic vocabulary is sparse. Varenius is not a descriptive writer—nor does his approach demand it—but a list of the world's most famous mountain ridges that describes Mount Atlas as: *in plurimis partibus nivosus, frigidusque etsi in Zona torrida iacet,* 'snowy and cold in many places, although it lies in the dry zone', might be considered a little dry.[66]

Nonetheless, the *Geographia Generalis* makes up for whatever it lacks in descriptive writing in its clear and succinct overview of the different opinions on the creation of the mountains. The summary makes up *Propositio* eight of chapter nine and carries the title *Quomodo montes extiterint, explicare* 'Explaining how the mountains may have come to be'. It is here that we also find some of Varenius' more colourful writing in the two chapters on mountains:

> *Hanc quaestionem quidam Philosophi moverunt: plurimi inutilem esse censent, neque de eo quaerendum existimant, propterea quod montes cum ipsa tota tellure generatos esse opinentur. Atqui non paucos subsedisse montes fornicibus saxeis*

[65] Varenius, *Geographia Generalis,* 97-107 are dedicated to various techniques of measuring the altitudes of mountains. The diagrams can be found on pages 160-1 of the 1681 Newtonian edition. For the history of mountain measurement which includes important work done by J. J. Scheuchzer, a figure who has a large role to play at the end of this chapter see: Cajori, F., "History of Determinations of the Heights of Mountains," *Isis* 12, 3 (1929): 482–514.
[66] Varenius, *Geographia Generalis,* 138.

> *exesis vel aliam ob causam fatiscentibus, historiae testantur. Quorum autem naturalis corruptio est, illorum quoque generationem naturalem non supernaturalem fuisse judicamus.*[67]
>
> Some Philosophers treat this question: very many others consider it fruitless and not fit for inquiry because they think that the mountains were created together with all the rest of the world. Yet history testifies that no small number of mountains have sunk down into rocky vaults which have collapsed or cracked apart for another reason. The decay of the mountains, then, is natural, and so I conclude that their generation too was natural as opposed to supernatural.

Varenius immediately acknowledges the divide in opinion over the biblical origins of the mountain by opposing *quidam* to *plurimi* in the first sentence. The thinkers who believe that the mountains were created at the same time as the whole earth do not waste their time with the topic: the mountains were part of God's plan and shaped by his hand. The theorist who wishes to argue that the mountains were not created at the same time as the earth, however, must adduce some evidence for changes in the appearance of the earth's surface after the six days of *Genesis.* Varenius reasons that since many mountains are known to have collapsed as a result of natural processes, they must rise by natural processes as well. In contrast he rules out *generatio supernaturalis,* here the hand of God.

Varenius' reasoning appears—at first glance—to be backwards here: why argue that the mountains must have been created by natural forces as a deduction from the fact that they are destroyed naturally? The Latin vocabulary in the passage above gives a clue to the author's logic: in using the word *corruptio*—the Latin word for 'decay, spoiling, a diseased state' which carries as much negative force as its cognate in English—Varenius separates the mountains from anything divine. God's work, in its perfection, is immune to *corruptio.* Once it has been shown that the mountains are susceptible to *corruptio*, it then follows easily that they cannot have been formed by supernatural means. The vocabulary used to describe the processes of decay leads the reader further into Varenius' association of the mountain with *corruptio*. The mountains are said to sink into rocky caves which have been hollowed out: *exesis*. Varenius' use of the verb *exedo* adds a creative touch to this

[67] Varenius, *Geographia Generalis,* 107-8.

passage. It carries the weight of 'consume' or 'devour'—alongside the more prosaic 'hollow out'—which paints a more sinister scene for the reader.[68]

On the other side of the debate, there are those thinkers who put more emphasis on theological concerns:

> *Qui magis Theologice philosophantur, illi censent Tellurem primo a Deo creatam fuisse mollem et omnino Sphaericam sine extantibus partibus vel montibus, sine cavitatibus, deinde cum Deus aquam a terra recedere iussisset, tunc alveos in terra factos fuisse atque terram ex alveis remotam montes constituisse.*[69]
>
> Those who reason more theologically think that the earth was first created by God smooth and spherical all over without projecting parts or mountains, and without hollows. Then, when God ordered the water to withdraw from the land, cavities were made in the earth and the land removed from these hollows made up the mountains.

In contrast to the vocabulary of *corruptio*, the earth as it was first created by God was *mollis* 'smooth' and perfectly spherical. This smooth, spherical globe remained the ideal form of the earth in the minds of some natural philosophers. Thomas Burnet, for example, devotes a chapter to the *Figura Telluris Prima atque Ovum Mundanum Veterum*, 'The Early Form of the Earth and the Mundane Egg of the Ancients' in the *Theoria Sacra*.[70] In the passage above, Varenius imagines the change from the spherical earth to the form we now know occurring on the third day of creation, when—at *Genesis* I: 8-9—the dry land and the seas were separated, *et vidit Deus quod esset bonum* 'and God saw that it was good'. Varenius closes his discussion of the mountain by expressing his doubts over whether the volume of the mountains is in fact exactly equal to the hollows in the sea-bed.[71]

vi) A Smooth Primaeval Earth—Josephus Blancanus

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[68] As an example of this sinister side of *exedo*: Juno is said to have consumed (*exedisse*) the city of Troy with her hatred at Ver. *Aen.* V.785-788: *Non media de gente Phrygum exedisse nefandis / Urbem odiis satis est, nec poenam traxe per omnem: / reliquias Troiae, cineres atque ossa peremptae / insequitur: causas tanti sciat illa furoris.*

[69] Varenius, *Geographia Generalis,* 107.

[70] Burnet, *Telluris Theoria Sacra,* 159ff. The translation 'mundane egg' for *ovum mundanum* was used in contemporary English versions of the *Telluris Theoria Sacra* and describes a smooth egg-shaped earth, rather than an unexciting one.

[71] Varenius, *Geographia Generalis,* 107.

One theorist who did subscribe to the belief that the volume of the mountains was equal to the size of the hollows in the sea was Jesuit Josephus Blancanus (Guiseppe Biancani, 1566-1624) whose *Sphaera Mundi* was first published at Bologna in 1619. Varenius, among many other seventeenth century natural philosophers, depended heavily on Blancanus for his ideas about the development of the earth's topography.[72] The *Sphaera Mundi* presents Blancanus' conception of God's symmetrical world: in the beginning the earth had been a perfect sphere. When God separated the land and the sea, the mountains were piled up out of the earth scooped out to make the seas. For Blancanus it was the world's perfect geometrical shape—and the symmetry which God had imposed on it—that made it beautiful. In the third section of the *Sphaera*, Blancanus treats 'The Construction of the Earth'. The third chapter on the construction of the Earth is *De Mundi Figura* 'On the Shape of the World'. Blancanus begins with the straightforward claim that philosophers and astronomers agree that the world is spherical. His first piece of evidence is drawn from the circular movement of the skies as seen from the earth. His second point begins:

> *Sumitur a sphaericae figurae, ac mundi ipsius nobilitate, ac perfectione: perfectissimo namque, ac perfectissimo corpori, uti est mundus, debetur figura omnium perfectissima, ac nobilissima, quae est sphaerica: existimandum igitur est, sapientissium mundi Architectorem, Deum videlicet O.M. ei sphaericam figuram indidisse.*[73]
>
> This [the previous argument] can be assumed from the majesty of the spherical figure and the world itself as well as from their perfection: for, indeed, the most perfect thing and the most perfect body—the world—should have the most perfect and majestic figure of all—the sphere. It must be considered, therefore, that God Almighty the most wise architect of the earth, furnished it with a spherical figure.

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[72] Nicolson, *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite*, 77; Poole, W., *The World Makers: Scientists of the Restoration and the Search for the Origins of the Earth* (Oxford, 2010), 100. Nicolson gives the impression on pages 177-179 that Varenius considered the original earth to be smooth. Although the passage on the origins of the mountains in the *Geographia Generalis* (106-7) analysed above does not reveal Varenius' opinion clearly, it certainly ends by casting doubt over the opinion of '*qui magis Theologice philosophantur . . .*' Given that Blancanus' theory was precisely that the earth was originally smooth and that the mass of mountains equals the depth of the hollows in the sea—not to mention the fact that he was a Jesuit—Varenius' hesitant treatment of the hypothesis can be taken to refer to the *Sphaera Mundi.*

[73] Josephus Blancanus, 1620, *Sphaera Mundi seu Cosmographia Demonstrativa, ac facili Methodo tradita* (Bonn), 59.

The perfection of God's creation was not in question for the Jesuit Blancanus. The perfection and *nobilitas* of the earth's spherical form, as God's creation, is not then surprising either. But in the next paragraph Blancanus goes on to make an aesthetic point about the earth's spherical form. His language is explicit:

> *Quod autem sphaera sit omnium figurarum, tam planarum, quam solidarum perfectissima hisce rationibus patebit. Primo sicut circulus omnibus planis figuris praecellit, ita quoque sphaera solidas omnes figuras antecellit; nam sicut circulus unica linea, sic sphaera unica superficie concluditur; sicut in circulo apparet maxima partium conformitas, ac similitudo, qua a medio uniformiter distant; ita etiam omnes sphaerae partes ab ipsius medio consimiliter recedunt, unde etiam ipsius maxima pulcritudo exoritur.*[74]
>
> It will be clear from these arguments that the sphere is the most perfect of all shapes, both two- and three-dimensional. First of all, just as the circle surpasses all the other flat shapes, the sphere surpasses all the solid shapes; for in the same way that a single line defines a circle, a single surface delineates a sphere. And just as a circle demonstrates the highest amount of conformity and similarity between its parts (since they are uniformly distant from its centre) so all the parts of a sphere also move away from its centre in exactly the same manner. This is where the shape's extreme beauty comes from.

That this passage is more than just a short excursus on the virtues of the sphere's shape is made clear twenty pages later in the fourth chapter of tract three: *De Terrae Figura* and the *Corollarium de Mutatione rotunditatis terrae* which follows it. These chapters differ from the one considered above—*De Mundi Figura*—in considering only the shape of the planet earth itself instead of including the shape of the heavens and sky which accompany it. Blancanus, however, revisits much of the same material in these chapters. He begins, for example, with the evidence for the earth's spherical shape drawn from looking at the heavens, much as he did earlier on. But Blancanus' greater focus on the shape of the earth itself brings him away from the *sphaera perfectissima omnium figurarum* and face to face with the ruder reality of its surface:

[74] Blancanus, *Sphaera Mundi,* 59.

> *Dicendum igitur terram esse rotundam ac sphaericam, non quidem geometrice, sed rudi quodammodo, cum eius superficiem valles ac montes asperam reddant.*[75]
>
> It must be said, therefore, that the earth is round and spherical, not indeed geometrically, but somehow roughly, since the valleys and mountains render its surface uneven.

The vocabulary of *perfectio,* 'perfection'*, nobilitas,* 'majesty' and *pulcritudo,* 'beauty' that we have seen in Blancanus' earlier descriptions of the earth's figure has now been replaced with *rudis,* 'rough', and *asper,* 'uneven', 'jagged', and even 'savage'. The deformation of the earth's surface is an issue of sufficient significance to warrant a separate treatment in the *Corollarium de Mutatione rotunditatis terrae*. In the *Corollarium*, Blancanus presents his theory on how the earth became rough with mountains and valleys. He begins by restating the position he had established in the earlier chapters we have considered:

> *Primum igitur ut rei causas probe teneamus, illud ex sacris literis statuendum; Orbem terrae in suo primordio fuisse perfectiori sphaerica figura praeditum, idest absque montium ac vallium inaequalitatibus; tunc enim tota mari obtegebatur.*[76]
>
> First, then, so that we have the reasons clear, the facts in scripture should be established; the globe at its beginning was gifted with a more perfect spherical shape, that is without the unevenness of the mountains and valleys, for it was completely covered by the sea.

Once again Blancanus emphasises the perfection of the spherical shape of the earth. In the passage above he contrasts that perfection with the irregularity of the mountains and the valleys. These were created with the land to make the earth inhabitable. The description of this process runs:

> *. . . cum ipsius conditoris nutu maxima terrae pars ex uno loco in alium translata est, unde illic marium concavitates, istic vero montium sublimitates apparuerunt.*[77]
>
> With one nod from the creator himself, a large part of the earth was transferred from one place to another: therefore, there appeared the hollows of the sea in one place, the heights of the mountains in another.

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[75] Blancanus, *Sphaera Mundi,* 80.
[76] Blancanus, *Sphaera Mundi,* 81.
[77] Blancanus, *Sphaera Mundi,* 81.

With this passage Blancanus adds substance to the biblical description of the separation of the seas and the land in *Genesis* 1:9-10. He holds that the mass which makes up the mountains is the same material that was taken from the seas—the belief over which Varenius hesitated above.[78] But what follows in Blancanus' account of the formation of the earth's current topography reveals the reason he has insisted on the earth's perfect primordial shape in the *Sphaera Mundi* until now:

> *Ex quibus sequitur terram sic montuosam esse extra naturalem suam figuram atque in statu quodam violento.*[79]
>
> From these points it follows that the earth, mountainous as it stands, is outside its natural figure and in a kind of wild state.

Blancanus reasons that the earth is in an unnatural shape: it has been distorted. The appearance of the word *violentus* is striking in this context. Its meaning here goes beyond the usual semantic field of the word in Latin, which is similar to that of its English cognate: 'violent'. The word is commonly used with inanimate objects to mean just that: in the fifth book of Lucretius' *De Rerum Natura* we find, for instance, *ventus violentus* 'violent wind' (V. 1226) or *vires violentae aeris* 'the forces of the violent sky' (V. 1229). But it is difficult to translate the word as 'violent' in the passage cited above as it is applied to the earth itself: violence of the type that Lucretius attributes to the wind or air is hard to imagine in a planet. Moreover, the idea that the earth has become violent in this way on account of her unnatural shape would not make logical sense in the context. Blancanus believes that the earth has come to its present uneven state after being subjected to a violent process.

The abnormality that Blancanus perceives in the earth's shape is further underlined by his ideas about the processes of erosion. Since earth is heavier than water, he argues, it is against the nature of both elements that any land should be above the seas. The restoration of natural order is effected by water itself in the form of the rivers, rains and seas that wear down the landmasses. The rich images

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[78] See subchapter *Biblical Positions—Mountains in Genesis and Berhardus Varenius* above. Varenius' doubts appear at *Geographia Generalis,* 107.
[79] Blancanus, *Sphaera Mundi,* 82.

at work in Blancanus' description of this process display the author's aesthetic concern in re-establishing the earth's natural state:

> *Primo videmus flumina quotidie montium radices corrodere ac suffodere, ita ut passim ex omnibus montibus magnas efficiant ruinas ac praecipitia, sicque terra (ut est apud Iobum ca.14) alluvione paulatim consumitur.*[80]
>
> First off, we see that rivers corrode the feet of the mountains daily and undermine them so that they produce great collapses and ruins in all mountains everywhere, and so the earth (just as in Job 14) is consumed gradually by flooding.

The verbs *corrodere* 'to knaw away' and *suffodere* 'to undermine' or 'to bore through' provide strong visual images of the process. Moreover, the phrase *passim ex omnibus montibus magnas efficere ruinas* not only emphasises the totality of the mountains' destruction—*passim . . . omnibus* 'everywhere . . . all'— it is also unequivocal about the final derelict state of the earth: *magnas ruinas* 'great ruins'.

The explicit reference to *Job* compounds this dramatic imagery. In chapter 14 of the book, Job addresses God directly and considers the fragility of human life as well as the troubles that beset mankind in his speech. The mountain appears as part of the imagery which Job uses to examine the plight of humanity. After the programmatic first verse: *homo natus de muliere brevi vivens tempore repletus multis miseriis*, the first simile compares man to a flower which blooms and then withers.[81] The mountain image in the following verse refers back to this theme and expands it to include the idea that man passes away and does not return to the world:

> [18] *mons cadens defluit et saxum transfertur de loco suo* [19] *lapides excavant aquae et adluvione paulatim terra consumitur et homines ergo similiter perdes.*

Blancanus uses Job's phrase *adluvione paulatim terra consumitur* in his own description. His explicit allusion to the Bible brings some of the desolation and desperation of Job's address into his own account of the earth's topography. Far from the beautiful sphere of the primeval earth, the rough, 'violent' earth is subject

[80] Blancanus, *Sphaera Mundi,* 82.
[81] *Job* 14:2.

to processes which will make ruins of her mountains and consume her in flooding. These processes will eventually eradicate mankind as well.

Blancanus concludes the *Corollarium* by summing up his ideas on the question of the earth's shape and topography:

> *. . . mundum videlicet, vel saltem terram ab aeterno non fuisse figura hac praeditam, quam nunc videmus, nec mundum perpetuo duraturum: nam si haec illi montuosa figura ab aeterno inesset, iam pridem tota illa montium tuberositas fuisset ab aquis exesa et consumpta: neque aeterna esse poterit, quia ut probavimus, successu temporis reducetur ad perfectam rotunditatem, atque a mari inundabitur, unde fiet inhabitabilis.*[82]

> . . . evidently the universe, or at least the earth, has not been in this shape mentioned above, in which we now see her, for all time. Nor will the universe last for all time: for if it had had this mountainous figure forever, that lumpiness of the mountains would have been eaten away and consumed by the waters long ago. Nor will it be able to exist forever because, as I have proved, it will be restored to its perfect roundness and will be flooded by the sea, and so it will be uninhabitable.

The two expressive abstract nouns *tuberositas* and *rotunditas* stand out in the passage and are neatly contrasted to each other in the sentence. These two words alone could stand for Blancanus' hypothesis on the figure of the earth. On the one hand *tuberositas*—a word built from the noun *tuber* 'wart' or 'boil'—has associations with disease and illness. It is fitting vocabulary for an earth *extra naturalem suam figuram.* On the other hand, the *perfecta rotunditas* represents Blancanus' aesthetic ideal of earth's original shape.

Blancanus' argument and thought process is constructed on aesthetic principles: the world was originally the most beautiful shape—a perfect sphere. The smooth seas covered the earth, but then in order to make the globe inhabitable, God scooped out parts of the earth from the seabed and piled it up to make land. The sea then lay in the hollows from which the land was taken. The resulting mountainous condition of the earth is richly described by Blancanus: it is rough, wild and subject to forces which will render its mountains *magnas ruinas*. These natural processes will restore the earth to its natural perfect state: the beautiful sphere. The aesthetic ideals

[82] Blancanus, *Sphaera Mundi,* 85.

of perfection and beauty which Blancanus imputed to the original shape of the earth have in turn shaped his theory.

vii) Aesthetics of Nature in Theology: Commentaries on *Genesis*

Another thinker who shared Blancanus' insistence on a perfect and beautiful primeval earth was the German monk, priest and Reformer Martin Luther (1483—1546). Luther offered his ideas on the topographical state of the earth and how it came to have such an appearance his *Enarrationes in Genesin.* He began work on this commentary in 1535 and finished it in 1545.[83] Luther's interpretation of Genesis natural philosophy has much in common with that of Blancanus. In his commentary on the verses concerning the third day (*Genesis* 1:9-10), for example, Luther writes:

> *Terra enim pro suo centro deberet esse inclusa et tecta mari, sed Deus mare verbo suo repellit, et facit planitiem illam exstare, quantum ad habilitationem et ad vitam opus est.*[84]
>
> For the earth, because of its core, should be closed in and covered by the sea, but God pushes back the sea with his word, and makes this plain stand out as much as is necessary for life and habitation.

In Luther's *deberet esse inclusa et tecta mari* we hear an echo of Blancanus' *extra naturalem suam figuram* and the idea that the form of the earth as we know it, and indeed our survival as humans, owes itself to God's will.[85] However, unlike Blancanus, Luther's 'earth-aesthetic' is not built around the idea of a primeval *sphaera perfectissima.* Luther comments on the beauty of the world *after* God had made it inhabitable for mankind:

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[83] There is a certain irony in that Luther's last work should be on the beginning of the world. This irony may not have been lost on Luther himself who closed the *Enarrationes in Genesin* with the lines: *Das ist nu die liebe Genesis. Unser Herr Gott geb, dass Andere nach mir besser machen. Ich kann nit mehr, ich bin schwach, orate Deum pro me, dass er mir ein gutes, seliges Stündelin verleihe.*

[84] The Latin text I have used here is that of the authoritative 'Weimar' edition of Luther's collected works. The full title of the impressive piece of scholarship is *D. Martin Luthers Werke: kritische Gesamtausgabe* (Weimarer Ausgabe). The work was begun in 1883 and completed in 2009. The *Enarrationes in Genesin* makes up volumes 42-44. The passage here is found at vol. 42, p. 26.

[85] Blancanus, *Sphaera Mundi,* 82.

> *Postquam igitur tectum huius habitationis adornavit, coelum scilicet, et addidit lucem, nunc etiam aream instruit, et producit terram aptam habitationi et ministerio hominum . . . Belle igitur coepit huius domus fundamenta et tectum. Nunc videamus, quomodo eam exornet etiam.*[86]
>
> Therefore after God adorned the roof of his house, namely the skies, and gave them light, he now prepares the floor and reveals an earth fit for the habitation and service of men . . . He beautifully set up the foundations and roof of this house. Now let us see how he also adorned it.

The foundations of our world—the dry earth—were laid out *belle* 'pleasantly', along with the firmament. Luther goes on to praise the beauty of the way in which God decorated the earth with light in the skies, plants, animals and then man, in his commentary on *Genesis* 1:11-31. This idea runs contrary to the aesthetic of Blancanus, for whom the beauty of the earth was degraded as soon as the mountains were scooped out from the seabed to form 'tumours' on her surface. In the *Sphaera Mundi*, the processes of water erosion would eventually bring the earth back to its original perfection. In Luther—despite his early enthusiasm we have noted here—the outlook on the earth's topography is altogether gloomier.

The first indications of what I will call Luther's 'aesthetic of decline' appear in the *Enarrationes in Genesin* in the commentary to *Genesis* 3:17. This verse had caused interpreters considerable trouble since Jerome's translation of the Bible. I will cite it here for convenience:

> *Ad Adam vero dixit: quia audisti vocem uxoris tuae et comedisti de ligno ex quo praeceperam tibi ne comederes maledicta terra in opere tuo in laboribus comedes eam cunctis diebus vitae tuae.*

Debate centred around the phrase *maledicta terra in opere tuo.* The difficulties come down to the interpretation of *terra* here and the phrase *in opere tuo*. The Greek translations from the Hebrew Bible collected in Origen's *Hexapla* demonstrate the range of possible interpretations. Origen himself translates: ἐπικατάρος ἡ γῆ ἐν τοῖς ἔργοις σου 'cursed is the earth (including land and sea) in your deeds', which anticipates the sense of Jerome's *terra* and *in opere*. Aquila's translation, however, runs: ἐπικατάρος ἡ χθὼν ἕνεκεν σου 'cursed is the land (the surface, or even just soil)

[86] Luther, *Enarrationes in Genesin,* 27.

on account of you'. Luther chose a middle path and printed *maledicta terra propter te* 'cursed is the world on account of you' in his *Enarrationes in Genesin.*[87]

A Hebraist would be better placed to offer an explanation of the details of this linguistic confusion and its relationship to the Hebrew text of the Bible.[88] For the purposes of the argument here it is enough to draw attention to the textual problem and its various solutions in order to consider their consequences for the aesthetic perception of the earth's appearance. For Luther, and his vision of decline and decay, the outcome was dire. After briefly discussing the text of *Genesis* 3:17 he writes:

> *Apparet autem hic, quanta calamitas peccatum secuta sit, si quidem terra, quae innocens est et nihil peccavit, tamen cogitur sustinere maledictionem.*[89]
>
> Moreover, it is clear here how great a calamity has followed this sin, if even the earth, which is innocent and has committed no sin, is nonetheless forced to bear the curse.

Man's Fall is so absolute and catastrophic that even the earth has been punished. This punishment had direct aesthetic consequences for the earth:

> *Nec dubito, quin ante peccatum aura purior et salubrior, aqua fecundior, imo quoque solis lumen pulchrius et clarius fuerit, ita ut nunc tota creatura in omni parte nos admoneat maledictionis per peccatum inflictae.*[90]
>
> And I do not doubt that before the original sin the air was purer and healthier, the water more productive, indeed even the light of the sun was more beautiful and clearer. Thus the whole of creation, in all parts, now reminds us of the curse inflicted because of our sin.

The original earth, then, was ruined by the curse that God laid upon man and upon the earth as well. It affected not only the fertility of ground—so that man must earn a living 'in the sweat of his brow'—but also the air and waters. The beauty of the

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[87] The fragments of Origen of Alexandria's *Hexapla* are collected in Field, F., *Origenis Hexaplorum quae supersunt: sive Veterum Interpretum Graecorum in Totum Vetus Testamentum Fragmenta* (Oxford, 1875). Verse 17 of *Genesis* 3, with Origen's text alongside that of Aquila cited here, can be found on p.17. The controversy over this passage is summed up in Nicolson, *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite*, 84–86.
[88] Luther offers such an explanation in a short paragraph in the *Enarrationes,* 152.
[89] Luther, *Enarrationes in Genesin,* 152.
[90] Luther, *Enarrationes in Genesin,* 153.

light in which we see the earth was also blighted, and the physical state of the earth—*in omni parte*—reminds us of our Fall. The totality of the curse, and its continuous destructive consequences, are emphasised in Luther's commentary a few paragraphs later: *Mundus enim de die in diem magis degenerat* 'For the world deteriorates further everyday'.[91] And for Luther, the next significant expression of God's curse on the earth arrived with the Flood: *maledicta haec postea aucta est per Diluvium* 'this curse was intensified afterwards by the Deluge.'[92]

The mountains have not yet been specifically mentioned in Luther's interpretation of *Genesis*—although the curse's extent *in omni parte* in the citation above means they have not been excluded either. But with mention of the Flood the mountains make a dramatic entrance into Luther's aesthetics of an earth in decay. In the passages of commentary relating to the story of Cain and Abel (*Genesis* 4:1-26), Luther revisits the theme of God's curse upon the earth: Cain's punishment for having killed his brother begins with his inability to make the earth produce crops despite working it: *cum operatus fueris eam non dabit tibi fructus suos . . .* [93] These reflections bring Luther back to the changes and deterioration that the face of the earth has undergone since Man brought to it sin. He ends the commentary on *Genesis* 4:16 by looking ahead to the ultimate destruction of Cain and his offspring later in the Deluge. Changes in appearance of the earth were, naturally, a result of the Flood: *diluvii ea vastitas est, quo et montes et flumina et fontes fluminum mutati sunt* 'the Flood's devastation is what changed the mountains, rivers and the sources of the rivers.'[94] And these topographical changes—as signs of God's wrath and the decline in the earth's state—are emphasised in his writing:

> *Nam Noah post diluvium longe aliam totius terrae faciem vidit, quam antea; disiecti enim sunt montes, rupti fontes, mutati cursus fluminum ista immensa vi aquarum grassantium.*[95]
>
> For after the Flood Noah saw the earth's face entirely different to how it had been before; the mountains were rent asunder, sources destroyed and the courses of the rivers changed because of the boundless force of the waters surging on.

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[91] Luther, *Enarrationes in Genesin,* 154.
[92] Luther, *Enarrationes in Genesin,* 153.
[93] *Genesis* 4:12.
[94] Luther, *Enarrationes in Genesin,* 228.
[95] Luther, *Enarrationes in Genesin,* 228.

The whole earth, then, for Luther was now in a corrupted state: *Nos hodie possidemos plane maledictam prae illa, ut fuit ante Diluvium et post peccatum Adae* "we today have an earth clearly more cursed than it was before the flood and after Adam's sin".[96]

According to Luther, this curse and corruption was not merely an unseen force. God's punishment and the curse he laid upon the earth, as well as upon man, had visible consequences. Luther frequently compares the state of the primitive world with the one we currently inhabit. The perfection of the world in the times of Eden is set against the *reliquiae miserae . . . quas hodie habemus* 'the miserable remains we have today'.[97] The Flood was the event largely responsible for these changes and it was the earth's surface in Luther's eyes. And it was the earth which bore the brunt of God's punishment: *tota terrae superficies salugine aquarum corrupta est* 'the whole surface of the earth was corrupted by the briny waters."[98] A part of this corruption of the former earth was the mountain:

> *Aqua non solum evertit omnia, non solum evertit arbores et radices sed etiam terrae superficiem tollit et mutat solum . . . Hoc igitur fuit primi mundi quasi excidium.*[99]
>
> The water not only destroys everything, its does not only ruin trees and roots, it also raises the surface of the earth and changes the soil . . . This was therefore the destruction of the first earth as it were.

The mountain, then, as part of the land raised up by the Flood is implicated in the corruption and destruction of the earth. For Luther, the mountain is a part of the scarred and damaged state of the earth.

On the other side of the Reformation, and representing another way of seeing the mountain within a theological framework, was Spanish Jesuit Benedictus Pereius (1536-1610).[100] His *Commentariorum et disputationum in Genesim tomi quattuor*

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[96] Luther, *Enarrationes in Genesin,* 298.
[97] Luther, *Enarrationes in Genesin,* 306.
[98] Luther, *Enarrationes in Genesin,* 329.
[99] Luther, *Enarrationes in Genesin,* 308.
[100] Benedictus Pereius (Benito Pereira) was born in Ruzafa, Valencia. He entered the Society of Jesus in 1552 and taught literature, philosophy and theology in Rome, where he died. For Pereius' *opera* see: Sommervogel, *BCJ*, VI, 499-507 and IX, 764. For a good general introduction to Pereius' work and position within the tradition of Jesuit natural philosophy see: P. R. Blum, "Benedictus Pererius: Renaissance Culture at the Origins of Jesuit Science," *Science and Education* 15 (2006): 279–304.

were published in Rome between 1591 and 1599. Over the 50 years after Luther's commentary on Genesis was first published, the questions over the mountain that theologians and natural philosophers were asking themselves had begun to take a more central place in discussion about the earth. In paragraphs 48-50, his account of the work of the third day, Pereius explicitly addresses the key issues in the mountain debate under separate headings:

> *§48: Quomodo tota aqua prius operiens universam terram tertio die in unum locum et partem terrae redigi potuerit?*
> *§49: Utrum distinctio montium et vallium in terra fuerit ante Diluvium?*
> *§50: Utrum mare sit altius terra?* [101]
>
> §48: How, when all the water previously covered the whole earth, it could have been driven back into one place and one part of the earth on the third day?
> §49: Whether the difference between mountains and valleys might have existed on the earth before the Flood?
> §50: Whether the sea should be higher than the earth?

The fact that these questions are treated under separate, specific headings demonstrates their growing significance in the debate over the earth and her appearance. The responses that Pereius provides to these questions present a picture of the mountain quite different to that of Luther. Pereius' engagement with these topics shows that differing opinions over the mountain—which were previously woven into wider discussions of cosmology or geographical phenomena—were developing into specifically contested debates. Moreover, the aesthetic images of the mountain that accompanied the theological and philosophical wrangling in these debates could vary just as much as the substantial points in question. And aesthetic issues would soon become, indeed, the subject of debate themselves.

While for Luther, just as for Blancanus, the mountain was a topographical manifestation of the world's decay, for Pereius it was a physical phenomenon designed to make the world inhabitable. He rejects the idea that the world had remained spherical until the Flood:

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[101] Benedictus Pereius, 1591–1599, *Commentariorum et disputationum in Genesim tomi quattuor continens historiam Mosis ab exordio mundi usque ad Noëticum Diluvium, septem libris explanatam* (Rome). I have used in what follows the fourth and lastest 1599 edition of the first tome of the *Commentariorum et disputationum in Genesim tomi quattuor* published in Lyon. The individual topics §§48-50 are treated in the Pereius' commentary on the third day. They appear on pp. 110-3.

> *Licet intellegere falsam esse opinionem quorundam existimantium fuisse terram ante diluvium totam aequabiliter rotundam nulla celsiorum humiliorumque locorum inaequalitate.*[102]
>
> The opinion of those who consider the whole earth before the Flood to have been uniformly round with no unevenness of higher and lower places can be taken to be false.

How else, he argues, would the sea have been kept in its place, if not by the mountains?[103] Here Pereius imputes a geological cause for a result that Luther had attributed to word of God: the earth is kept dry and out of the sea by the raised land of the mountains.[104]

But the mountains not only make the world inhabitable at a basic level by holding back the sea, the mountains also provide for many of the other natural phenomena from which mankind profits: *[inaequalitas] confert etiam ad salubriatem aeris, fertilitatem, maturitatem fructuum* 'their unevenness also brings the wholesomeness of the air, fertility and the ripening of fruit'.[105] The mountains are the sources of springs and rivers: *Denique [inaequalitas] conducit ad generationem fontium et fluminum, quae fere originem habent ex montibus* 'Indeed, their slopes are necessary for the creation of springs and rivers, which generally come from the mountains.'[106] These arguments for the utility of the mountains—the benefits they provide for mankind in the design of the earth—would come to play an important role in the later mountain debate. In particular, the utility argument is used to oppose the image of wanton ruin that Thomas Burnet constructs of the mountain in his *Theoria Sacra,* discussed below. But here I want to underline that in the *Commentariorum et disputationum in Genesim tomi quattuor*, Pereius' more sympathetic reasoning about the mountain is accompanied by a more positive mountain aesthetic:

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[102] Pereius, *Commentariorum et disputationum in Genesim tomi quattuor,* 112.
[103] *Sed quomodo ante diluvium Oceanus tenebatur, ne terram infusus inundaret?* Pereius, *Commentariorum et disputationum in Genesim tomi quattuor,* 112.
[104] For Luther's reliance on God's will for keeping the sea from covering the land see above*: Terra enim pro suo centro deberet esse inclusa et tecta mari, sed Deus mare verbo suo repellit . . .* Luther, *Enarrationes in Genesin,* 27.
[105] Pereius, *Commentariorum et disputationum in Genesim tomi quattuor,* 112.
[106] Pereius, *Commentariorum et disputationum in Genesim tomi quattuor,* 112.

> *Inaequalitas partium terrae et montium atque vallium distinctio, mire facit ad decorem, ornatum et commoditatem terrae.*[107]
>
> The unevenness of parts of the earth, and the difference between the mountains and the valleys works marvellously in favour of the beauty, adornment and proportion of the earth.

In this passage, Pereius' positive aesthetic perception of the mountain is bound to the more positive and productive roles that they play in his theology and natural philosophy.

So far in Luther and Pereius, aesthetic comments have been limited to scattered phrases, or they form the background to the scholars' theological thought. Aesthetic concerns will now take the centre stage as we move our attention to the end of the 17th century.

viii) The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy

Thomas Burnet was born near Darlington in 1635. He was schooled in North Yorkshire before going to Clare College, Cambridge in 1651. He moved to Christ's College three years later and became a fellow in 1657. In 1681 the original Latin edition of his *Telluris Theoria Sacra* was published in London. It had an English translation by 1684 under the title *A Sacred Theory of the Earth*. By the start of the next decade the work had grown by the addition of two new parts and had been republished in its expanded form both in Latin and English.[108] The work had

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[107] Pereius, *Commentariorum et disputationum in Genesim tomi quattuor,* 112.

[108] The first edition of the work, containing the first two books, was published as: Thomas Burnet, 1681, *Telluris Theoria Sacra Orbis Nostri Originem et Mutationes Generalis, quas iam subiit, aut olim subiturus est, complectens; Libri duo priores de diluvio et paradiso* (London). The English translation which appeared three years later in 1684 was entitled: *A Sacred Theory of the Earth: Containing an Account of the Original of the Earth and of All the General Changes which it hath Already Undergone or Is to Undergo, till the Consummation of All Things* (London). The second Latin edition of the book was published with two extra books in 1689: *De Conflagratione Mundi* and *De Novis Coelis et Nova Terra*. These books were translated and appeared in the second English edition of 1690. In what follows I have used the 1694 Latin Amsterdam edition which appeared as: *T. Burnetii,* 1694, (*Telluris Theoria Sacra Orbis Nostri Originem et Mutationes Generalis, quas iam subiit, aut olim subiturus est complectens. Accedunt Archaeologiae Philosophicae, sive Doctrina Antiqua de Rerum Originibus,* Amsterdam). I have chosen this edition because it contains all the four books of the text, including those added in 1689, in one volume. It is also a continental edition, which is the edition more likely known to the European authors who I will discuss in the rest of this chapter. Moreover, this edition is readily accessible in electronic format on Googlebooks:
http://books.google.co.uk/books?id=ZzQcj0IovcUC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

also found itself at the centre of the intense theological and scientific debate which carries its author's name—the so-called 'Burnet Controversy'. Marjorie Hope Nicolson's 1959 *Mountain Gloom and Mountain Glory* provides a full account of Burnet's *Sacred Theory* in English and the aesthetic debate it provoked about the mountain and geological phenomena more widely in the British Isles. With the aesthetic concerns already underlined by Nicolson, I will show here that the original Latin editions of the *Sacred Theory* were just as influential as their English translations. Burnet's stirring prose style and imaginative narrative are significant forces in the Latin text which is little read today, if at all. The impact of Burnet's Latin work, and the responses it engendred in Europe will lead us ultimately to discover a changed aesthetic mentality towards the mountain in continental Latin writing.

Burnet's *theoria* strove to bring a Cartesian account of the world's physics into line with the biblical account of its creation. He left what he had taken from Descartes perhaps wisely inconspicuous—his work went on to cause enough unrest among theologians and natural philosophers without being overtly linked with the controversial Frenchman's ideas. His debt to thinkers like Varenius and Blancanus is, however, clear enough in his imagining of a world created out of chaos on the basis of scientific principles. A project of this kind required no small amount of erudition. Burnet's ability to concoct a theory, which, on the surface, could align the Mosaic account of creation with cutting edge thought on physics, chemistry and geology, demonstrates his considerable learning and sharp intellect. It would require significant skills of narration, too: Burnet's dramatic prose style, for some contemporary readers, certainly helped his difficult ideas to go down more smoothly.[109]

The authoritative treatment of Burnet's *Sacred Theory of the Earth* and the changing aesthetics of the mountain remains: Nicolson, *Mountain Gloom and Mountain Glory* (1959). For an earlier essay on the topic see: H. V. S. Ogden, "Thomas Burnet's Telluris Theoria Sacra and Mountain Scenery," *ELH* 14, 2 (1947): 139–50. Both of these works focus exclusively on the later English versions of Burnet's book.

[109] For Burnet's debt to Cartesian physics see*:* Poole, W., *The World Makers: Scientists of the Restoration and the Search for the Origins of the Earth* (Oxford, 2010), 57 and Davies, *The Earth in Decay: a History of British Geomorphology,* 72, n. 8. On Burnet's eloquence and style see*:* Haller, E., *Die Barocken Stilmerkmale in der englischen, lateinschen und deutschen Fassung von Dr. Thomas Burnets Theory of the Earth* (Bern, 1940). Samuel Taylor Coleridge was so impressed with the work that he intended to turn it into verse. He put Burnet and Plato on a par for their ability to create poetic effect in prose. For notes on Coleridge's reaction to the *Theoria Sacra,* see*:* Nicolson, *Mountain Gloom and Mountain Glory,* 194.

Burnet's earth began as chaotic matter settling into a smooth egg-shaped globe in various layers. Fire was at the core, above that there was layer of earth separating it from the third layer which was an internal ocean. On the top surface was the outer crust of the land.[110] The inner-ocean was to provide Burnet with the solution to one of the crucial problems he faced in his *Theoria*—where did all the water for the Flood come from? The egg shape would provide him with a mechanism to explain how the Flood occurred.[111]

The *Ovum Mundanum* was perfectly smooth and without sea-water:

> *Forma telluris primae, sive primi orbis habitabilis, erat aequabilis, uniformis, continua, sine montibus et sine hiatu maris.*[112]
>
> The form of the first earth, or the first inhabitable globe, was equal, uniform and continuous, without mountains and without the sea's abyss.

We would expect Burnet to express an opinion on this matter since it appeared as a key topic in the work of his predecessors, from Faenzi to Pereius. Less easily anticipated is the process which Burnet proposeed to change this smooth egg shape into the post-Diluvial form of the world. Burnet sets out the question explicitly and in so doing reveals his two greatest concerns in the *Theoria Sacra*:

> *Quid hoc ad Diluvium? Ne gutta aquae hic cernitur; quid ad montium aut rupium Originem, aut caeterarum inaequalitatum aut cavitatum quae in tellure hodierna conspiciuntur?*[113]
>
> What has this to do with Flood? Indeed, not a drop of water is to be seen here; what about the origins of the mountains or cliffs, or the other uneven parts and cavities which are found in the present-day earth?

His solution is imaginative: the egg, which has no water or mountains to offer cooling shade or moisture, is exposed to the unrelenting sun throughout the centuries of the earthly paradise. Its smooth surface, then, heats up. This has two effects: firstly, the waters below the crust begin to turn to vapour and pressure

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[110] Burnet supplied diagrams to illustrate the theory and his *ovum mundanum* can be seen in cross-section with layers A to D displayed on p. 27 of the Amsterdam edition.
[111] Burnet discusses the egg-shaped earth at *Telluris Theoria Sacra* II.134-46.
[112] Burnet, *Telluris Theoria Sacra,* I.28.
[113] Burnet, *Telluris Theoria Sacra,* I.29.

builds up underneath the land as the steam tries to escape; secondly, the surface dries out and begins to crack with disastrous results:

> *. . . ex una parte, compage telluris hoc modo labefacta; ex altera, vaporibus auctis infra terram, et maiori vi et vehementia se dilatantibus, tellus, decreto tempore et conspirantibus causis, per quandam speciem terrae-motus rupta dissiluerit.*[114]
>
> . . . on the one hand, when the structure of the earth had been weakened in this way; and on the other, when the vapours inside the earth had increased, and expanded with greater strength nd vigour, the earth, at the decreed time and because of these united factors, was shattered and split apart through a certain sort of earthquake.

The destruction of the original earth was timed by God—*decreto tempore*—to occur at the point when man's sins had reached their height. The Flood that ensued would wipe the earth clean of all except Noah, but it left the world shattered and broken. All that Burnet saw left were the *confracti et dissoluti mundi rudera* 'the broken and destroyed remains of the world'.[115]

As the land collapsed into the subterranean seas and the vapour pushed out through the cracks, air had become trapped under the fallen rock. This both prolonged the duration of the Flood and caused a good deal of secondary damage to the face of the earth because the combination of water, air and rock was unstable. Gradually, however, the air escaped and the waters took their place back beneath the land. What was left was the world we inhabit today—the ruins of the original earth.

Burnet's *Theoria*, then, was an inventive solution to the problem of finding enough water for the Flood and explaining the creation of the mountains and the face of the world as we see it today, all within the constraints of a literal reading of the Bible and Descartes' physics. From the point of view of its theological and natural philosophical underpinnings, however, Burnet's idea was not progressive.[116] He provided imaginative answers to old questions—questions with which the authors we considered earlier in this chapter had already struggled. Burnet's *Telluris*

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[114] Burnet, *Telluris Theoria Sacra,* I.30.
[115] Burnet, *Telluris Theoria Sacra,* I.56.
[116] Poole, *The World Makers,* 57.

Theoria Sacra was, however, radical in the way that it presented the mountains aesthetically.

Burnet saw real Alpine mountains for the first time in 1671 when he went on the Grand Tour with the Earl of Wiltshire. Indeed, the Latin edition of the *Theoria Sacra* is dedicated to his *comes et socius itineris*.[117] Within the *Theoria Sacra* itself, there is considerable evidence to suggest that it was this trip—and Burnet's first hand experiences with the mountain landscape—that drove him to investigate their origins and ultimately to explain his conclusions in the Sacred Theory:

> *Certe animum meum non parum tetigit, et ad cogitandum de iis rebus stimulavit, cum per Alpes et Apenninos semel atque iterum iter faciens, eorum vastitatem, confragositatem et magnitudinem multas provincias et ingentes terrae tractus pervadentium intuebar*.[118]
>
> Certainly my mind was touched no little when I made my journey there and back through the Alps and Apennines. And it urged me to reflect on these things [the mountains] when I saw their vastness, their broken heaps and their size as they stretched out through huge swathes of land and several provinces.

The same chapter contains clues as to the extent to which Burnet's conception of how the surface of the earth should look was shaken when he first laid eyes on the high mountains of Europe. In one passage, where Burnet's baroque stylistic skills are on display, he imagines a man placed on the top of an Alpine summit and his reaction to the view:

> *At siquis mediis positus Alpibus ex summitate montis altissimi vicinas regiones circumspiceret, cum tot tantasque moles terrarum et insanas strages undique videret, nullo ordine, nulla forma, temere congestarum ac si e coelo cecidissent, aut ima tellus illas eructasset; facile sententiam praejudiciumve de ordinatione et aequabilitate orbis nostri deponeret.*[119]
>
> But if someone were placed in the middle of the Alps and he looked around from the peak of a mountain on the neighbouring areas, he might easily discard his opinions and preconceptions about the order and

[117] 'Companion and comrade in travel'. The dedication letter is printed just before the preface in the 1694 Amsterdam edition.
[118] Burnet, *Telluris Theoria Sacra,* I.46. Such passages are cited (in their English versions) in greater number and detail in Nicolson *Mountain Gloom and Mountain Glory,* 207-210.
[119] Burnet, *Telluris Theoria Sacra,* I.47.

> evenness of our globe when he sees so many and such great mounds of earth and wild confused heaps all around, in no sort of order and with no shape, and rashly piled up, as if they had fallen from the sky or the depths of the earth had belched them up.

A reader might easily imagine this man to be Burnet himself—taken out of the Yorkshire Dales or the Fenlands of Cambridge and placed among the Alps to find himself faced with mountain views he could never have imagined. The aesthetic reactions of Burnet's man on the mountain do not differ widely from those the author would go on to express in his chapter *De Montibus: eorum magnitudine, forma, situ irregulari et origine.*[120]

The landscape of wreck and ruin that the mountains represent in parts of the *Telluris Theoria Sacra* is familiar from the accounts of Blancanus and Luther.[121] But Burnet, as Nicolson argued, gave true aesthetic force to this imagery with particular emphasis on the mountain:

> *Formam montium singulorum quod spectat, nihil magis incertum, inconditum, aut perturbatum; ut solent esse rudera, omnium formarum et figurarum sunt, praeter regularium; moles praeruptae et confractae, nullus modus, nulla ratio partium aut proportio, nulla pulchritudinis umbra, artis aut consilii nullum vestigium.*[122]
>
> As for the form of individual mountains: there is nothing more doubtful, crude or disturbed. Just as ruins usually are, they come in all forms and figures outside of what is normal; they are broken and shattered masses, they have no bounds, no reason or proportion in their parts. There is not even a shadow of beauty or a trace of art or deliberation.

This aesthetic impulse in the *Theoria Sacra* also produced examples of positive mountain appreciation. Burnet was capable of feeling admiration and exhilaration at the size and daunting aspect of the mountains: *monstrant quandam*

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[120] Burnet, *Telluris Theoria Sacra,* I.46-53 including diagrams of the globe and its mountain ranges on 52-3.

[121] *Cf.* the comments on *ruina* above in Faenzi's *De Montium Origine* in the subchapter iv) *The Mountains and their Origins—l'état de question 1561.*

[122] Burnet, *Telluris Theoria Sacra,* I.46. I have chosen this passage as a particularly strong and broad representation of Burnet's aesthetic reaction to the mountain. The work as a whole is filled with such evocative passages and it is a shame to pass over so many. Nicolson's work, however, in being the first to present and analyse the *Sacred Theory* for its striking aesthetic position with regard to the mountain, cites many dense and fascinating sections such as this at length, albeit in English. It would be uneconomical to go over the same ground here.

Naturae magnificentiam 'they demonstrate that greatness of Nature'.[123] But he also took great pleasure in the sight of high mountains:

> *Praeter coelorum facies, et immensa spacia aetherea, stellarumque gratissimum aspectum, oculos meos atque animum nihil magis delectare solet quam oceanum intueri et magnos montes terrae.*[124]
>
> Beyond the appearance of the heavens, and the immense celestial expanse, nothing usually delights my eyes and my mind more than looking at the ocean and the huge mountains.

And he connected this aesthetic pleasure with divine contemplation:

> *Nescio quid grande habent* [*sc. montes*] *et augustum uterque horum, quo mens excitatur ad ingentes affectus et cogitationes: summum rerum authorem et opificem inde facile contuemur et admiramur . . .* [125]
>
> I don't what loftiness and magnificence—or both—they have, by which the mind is incited to grand feelings and thoughts: for that reason we easily comtemplate and wonder at the greatest originator and constructor of things . . .

The disparity between Burnet's positive personal reaction to the appearance of the mountains and his pessimistic theorhetical position on their creation and symbolism created an ambiguity in his overall aesthetic appreciation of the mountain landscape. This ambiguity comes out repeatedly throughout the *Theoria Sacra,* not only in sections where one can read opposing reactions to mountain scenery on one page, but even within the same sentence:

> *Cum vero magnarum rerum, licet incultarum, non in iucunda sit speculatio, redeamus iterum ad Alpes nostras et jactatis oculis in omnes partes, istarum ruinarum differentias et deformitates paululum contemplemur.*[126]
>
> But since the consideration of great things, or even rough things, is not unpleasant, let us return again to our Alps and, casting of eyes all around, consider a while the inequalities in their destruction and their ugliness.

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[123] Burnet, *Telluris Theoria Sacra,* I.46.
[124] Burnet, *Telluris Theoria Sacra,* I.46.
[125] Burnet, *Telluris Theoria Sacra,* I.46.
[126] Burnet, *Telluris Theoria Sacra,* I.48.

It is Burnet's emphasis on aesthetic concerns, and his ambivalent opinions on this topic, which make him a key figure for the change in aesthetic appreciation of the mountain. For more consistently positive opinions of mountain aesthetics it is necessary to look to the responses that Burnet's work generated both in Britain and abroad.

ix) The 'World Makers', John Woodward and *Dissertationes de Montibus*[127]

Despite Burnet's ingenuity and imagination in formulating his theory—and his eloquence in presenting it—critics began to voice their objections soon after the appearence of the first edition. A deep knowledge of *Genesis* is not required to see that Burnet's smooth and dry original earth does not tally with the creation of the seas in Moses' account, for example, or that the Flood was said to cover the mountains by 15 cubits, implying they already existed. John Keill (1671-1721) launched a full-scale attack on Burnet's *Theoria* in 1698 entitled 'An Examination of Dr. Burnet's Theory of the Earth'.[128] Keill, an Oxford mathematician, took Burnet's scientific explanations of the biblical *Genesis* to task on the point that a mechanical explanation of the Flood—in that the *ovum mundanum* was set up to automatically destruct at the point of man's most sinfulness—left God with the duties of little more than a curator of the world's natural processes.[129] Indeed, this line of criticism went to the point of marking Burnet out as a deist, having restricted God's role in the world to having put it in motion. The Bishop of Hereford, Herbert Croft (1603–1691), labelled Burnet exactly that in 1685.[130] In other places, Burnet's *Theory* argued for a literal reading of the Bible, which he duly defended with scriptural examples that supported his explanation of creation and the Flood. Problematically, then, he criticised other accounts of geohistory in the Bible and

[127] I borrow the term 'The World Makers' from W. Poole's 2010 volume of the same title. It is also the name of the sixth chapter of the book (pp. 55-74) which provides the clearest and fullest explication of the 'Burnet Controversy' that I have found.
[128] The book was published first in 1698 with the full title: *An Examination of Dr. Burnet's Theory of the Earth: Together with Some Remarks on Mr. Whitson's New Theory of the Earth* (Oxford). William Whitson's 1696 work: *A New Theory of the Earth from its Original to the Consummation of Things Where the Creation of the World in Six Days, the Universal Deluge, And the General Conflagration, As laid down in the Holy Scriptures, Are Shewn to be perfectly agreeable to Reason and Philosophy* (London) is treated below.
[129] Davies, *The Earth in Decay: a History of British Geomorphology,* 73.
[130] Poole, *The World Makers,* 59 n. 5.

attempted to show how his *Theoria* could emend and replace these sections. For many critics this went too far: if the Bible could be shown to be lacking in some parts, it did damage to the credibility of scripture as a whole.[131]

While theologians sought these flaws in Burnet's treatment of scripture, natural philosophers were working to undermine his theory on scientific grounds.[132] In the two decades following the publication the *Theoria Sacra*, two rival theories of the earth were published. Each offered an alternative account of how the earth came to look the way it does today. William Whitson (1667-1752) published his *New Theory of the Earth from its Original to the Consummation of Things* in 1696. The *New Theory* offers an account just as inventitive as Burnet's, if very different in substance. Whitson's earth was still Burnet's egg, with a central fire and then layers of water and earthy crust, but he proposed that a comet had passed near the earth around the time of the Flood. This had begun the earth's daily rotation and, as the earth passed through the comet's icy tail, its condensation had caused the Flood.[133]

John Woodward (1665-1728), Gresham Professor of Physic and Fellow of the Royal Society, looked elsewhere for inspiration for his theory. He was a collector of fossils, and his 1695 *Essay toward a Natural History of the Earth and Terrestrial Bodies* attempts to explain the appearance of these mysterious relics in unexpected places by re-writing the earth's geology once again.[134] He proposed that the earth had been created in a fertile form similar to the one we see today. At the time of the Flood, God paused the forces of gravity and the whole substance of the earth melted together to form a sort of soup.[135] After the Flood, when gravity was re-activated, organic matter such as animal bodies and fish, which had not been liquefied and which had sunk into the mixture of matter, were encased in stone.

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[131] Poole, *The World Makers,* 62 recounts Erasmus Warren's criticism of Burnet on this point in his 1690 *Geologia: or a Discourse Concerning the Earth before the Deluge* (London).

[132] It bears repeating here that during the period a natural history of the earth would always begin with the Mosaic account of creation, so the distinction between 'science' and 'theology' is used here merely as a tool to differentiate those thinkers who opposed themselves to Burnet more on points of natural philosophy than theology. The two are largely inseparable.

[133] This brief account of Whitson's *New Theory* follows that of Poole, *The World Makers,* 68-71.

[134] Woodward's *An Essay toward a Natural History of the Earth and Terrestrial Bodies, especially Minerals, &c.* was first published in 1695 in London. It saw a second edition in 1702, and a third in 1723.

[135] ". . . at the time of the *Deluge* (when these Shells were brought out upon the Earth, and reposed therein in the Manner we now find them) *Stone*, and all other solid *Minerals* lost their *Solidity:* and the sever'd Particles thereof, together with those of the Earth, Chalk and the rest, as also Shells, and all other *Animal* and *Vegetable Bodies,* were *taken up* into and *sustained in*, the Water." J. Woodward, *An Essay toward a Natural History of the Earth and Terrestrial Bodies, especially Minerals, etc.* 31. The italics and capitalisations are Woodward's own in the final, fullest 1723 edition.

The shape of the earth after the Flood was designed specifically for life to be able to continue and it had changed little since the days of Noah—"Where Burnet saw ruin, Woodward saw providential order."[136]

While Englishmen debated their theories and re-made the earth several times over, theories like Burnet's had added fuel to a more specific debate about the mountain on the continent, carried out in Latin. Three years after the first Latin edition of the *Theoria Sacra,* a graduating candidate at the Regium Gymnasium Carolinum in Stettin, Germany (now Szczecin, Poland) had his formal disputation *de montibus* 'on mountains'. The results of the disputation were published, along with Martin Lipen's—his *praeses*—dissertation, as the *Orologia i.e. Disputatio Physica de Montibus* in Hildesheim in 1684.[137] Nathanael Grünberg—the student—discoursed on 23 mountain-related topics in total, ranging from: *Montis Etymologia* 'the etymology of 'mountain'; *Causa efficiens montium* 'the efficient cause of the mountains'; to *Forma* 'their shape' and *Stabilitas* 'their stability.[138] The *Orologia* says little that is new about mountains. Indeed, the goal of the disputation was perhaps less to present cutting edge research rather than to demonstrate his erudition and ability to carry out the defence in Latin. Much of the *Disputuatio* is made up of quotes from, and references to other authorities: the author had read Conrad Gesner's *Descriptio Montis Fracti,* Benedictus Aretius' *Descriptio Stocchornii et Nessi,* Johannes Rhellicanus' *Stockhorniad* and Athanasius Kircher's *Mundus Subterraneus* among many others.[139] The signifance of Lipen and Grünberg's *Disputatio* lies rather in that it is one of the first works after Faenzi to treat the mountain specifically. After Burnet and his 'Controversy' the mountain would increasingly become the sole focus of study and the questions about the mountain that Grünberg faces at the

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[136] Poole, *The World Makers,* 63-68. The citation from Poole is on 65.

[137] N. Grünberg (M. Lipen), 1684, *Orologia i.e. Disputatio Physica de Montibus* (Hildesheim). Here I have used the 1684 edition, the only edition to my knowledge, which has been helpfully digitized by the Sächsische Landesbibliothek - Staats- und Unversitätsbibliothek Dresden: http://digital.slub-dresden.de/id278722563. German bibliographer Martinus Lipenius (Martin Lipen) (1630-1693) oversaw the disputation as the rector the gymnasium. According to the custom of dissertation publications, it was probably Lipen—as the disputation *praeses*—who was finally responsible for the publication of Grünberg's research material in the final form as we have it today. For a helpful overview of the formal process of a dissertation *disputatio*—as well as the difficulties in establishing the true authorship of the final version of the work—see: R. Steixner, *Philosophia Historica de Montibus: Eine Dissertationsschrift Der Universität Innsbruck aus dem Jahr 1713 — Text, Übersetzung, Kommentar*, Studia Interdisciplinaria Aenipontana 13 (Vienna), 11–14.

[138] The full list of topics can be found on leaf $A2^{v-r}$.

[139] For Gesner, Aretius and Rhellicanus see chapter *Geographia, Prospectus, Pictura* above. For Kircher see subchapter: *The Mountains and their Origins—l'état de question 1561.*

end of his *Disputatio* are precisely those familiar from the debates that we have followed in the chapter until now: *An montes fuerunt ante Diluvium?* 'Were there mountains before the Flood?' *An ergo per diluvium nulli prorsus montes facti?* 'Were, then, no mountains at all made by the Flood?'[140] It was these questions and the specific study of the mountain as a natural phenomenon that would create the type of intellectual atmosphere required to comlplete the change in aesthetic mentality we have been following.

In the wake of Burnet's *Theoria*, and in the same vein as Lipen's *Orologia,* a series of mountain-specific tracts appeared, in Latin, across the German world. There was, for example, the *Philosophia historica de montibus*, published at Innsbruck, Austria in 1713; the *Montes Divinitatis testes* from Heroldsberg, Germany in 1729; the *Origo Mundi ex Montibus Vallibusque* (Gdańsk, 1735); and the *Dissertatio physico-historica de montibus*, another from the mountains of Innsbruck, which was published in 1754.[141] These all take the form of disputations with propositions or questions followed by an answer or defence from the student. The points of interest in all of these works follow the same themes treated thus far in this chapter. That the *Dissertatio physico-historica de montibus* opens with the question: '*An montes fuerint ante Diluvium?'* is a case in point. Now, however, Burnet's mountain aesthetic of ruin also came under dispute.

The *Montes Divinitatis testes* was a thesis defended by a Christophorus Martinus Lochner on the 23rd February 1729. He takes issue Burnet on the notion that the mountains are ugly and useless.[142] This he considers an affront to God's design of the world in which the mountains play an important role—according to his arguments—in providing water to the vales and valleys and in acting as borders

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[140] Grünberg's 14 *quaestiones* are on leaves C^{r}-$C3^{v}$ in the printed edition. The *Disputatio* ends with the Rector congratulating the disputant. His praise includes a couplet along with several longer poetic dedications in Latin and German. The couplet, a play on the Grünberg's name, is not without charm: *Expendis Montes, quoniam de Monte vocaris / Frugifer ergo ut Mons perpetuo vireas* 'You ponder the mountains, because you are named after the mountain / May you be verdant forever, then, just like the productive mountain.'

[141] C. Vian (C. Leopold), 1713, *Philosopia Historica de Montibus* (Innsbruck). This text has a modern edition: Steixner, *Philosophia Historica de Montibus: Eine Dissertationsschrift der Universität Innsbruck aus dem Jahr 1713 — Text Überstezung, Kommentar* (2009); C. M. Lochnerus (I. W. Feuerlinus), 1729, *Montes Divinitatis testes* (Heroldsberg). This text has been made available online by the Bayerische Staatsbibliothek: http://www.mdz-nbn-resolving.de/urn/resolver.pl?urn=urn:nbn:de:bvb:12-bsb10640030-3; J. Wolff and C. M. Hanovius, 1735, *Origo Mundi ex Montibus Vallibusque* (Gdańsk); A. M. Planch, 1754, *Dissertatio physico-historica de Montibus una cum Conclusionibus ex Universa Philosophia selectis* (Innsbruck).

[142] Lochner, *Montes Divinitatis testes,* 1-2.

and defences as well as in directing the winds. The mountains are also fertile places where certain species of tree grow in abundance, rare types of plants and herbs flourish on their slopes, and mining activity can provide building materials and minerals.[143] Moreover, Locher defends the mountain against Burnet's accusations of *deformitas* 'shapelessness, ugliness'. He cites from Burnet specifically the passage we considered above (see n. 115) and addresses the idea that the mountains lack beauty—*nulla pulchritudinis umbra*—first in his response.[144] The question over the mountain's beauty was now an important issue of debate; it had become a central theme even in these smaller theses and disputations about the mountain. The author to whom Lochner is most indebted for his defence of the mountain's utility and beauty is Swiss physician and naturalist Johann Jacob Scheuchzer. Lochner makes liberal use of Scheuchzer's numerous natural philosophical works in both the body of his text and in the footnotes.[145] It is to Scheuchzer we will now finally turn for the development of a modern, positive mountain aesthetic in Latin.

x) Scheuchzer's *Itinera Alpina* and the Changed Mountain Aesthetic

In 1702 Scheuchzer (1672-1733) made the first of his *Itinera Alpina,* journeys through the Alps which he undertook to collect first hand knowledge on topics from botany and crystallography, to thermal springs and even dragons.[146] Scheuchzer made nine such research trips in total, carrying out his last in 1711. The collected reports of the *Itinera* were published at Leiden in 1723. This edition comprised two volumes and numerous, beautifully executed engravings depicting objects and

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[143] Lochner, *Montes Divinitatis testes,* 18-20.

[144] The citation from Burnet can be found at *Theoria Sacra*, I.46. The words that Lochner cites vary slightly from the 1694 edition that I have used in this chapter. His citation on p. 13 reads: *[Burnetius putavit] nihil hic esse elegans aut venustum, nullam pulchritudinis umbram, sed horridam deformitatem, adeoque artis aut consilii nullum vestigium.* Lochner cites carefully from his sources throughout the work; he knows Varenius' *Geographia Generalis* and Kircher's *Mundus Subterraneus,* for example, to mention only those authors I have treated here. He does not, however, state which edition of Burnet he used. In any case, the version of Burnet's phrase that Locher quotes concentrates more on aesthetic concerns even than the one cited here above in *The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy.*

[145] Lochner first cites *Celeberrimus Io. Ia. Scheuchzerus* in note '*x*' on p. 16. He continues to refer to the Swiss author until the end of the short work on p. 24.

[146] For biographical information on Scheuchzer see, among others: H. Fischer, *Johann Jakob Scheuchzer, 2. August 1672-23. Juni 1733, Naturforscher und Arzt* (Zürich, 1973); M. Kempe, *Wissenschaft, Theologie, Aufklärung: Johann Jakob Scheuchzer (1672-1733) und die Sintfluttheorie* (Epfendorf, 2003): 22-29 *et passim;* S. Boscani Leoni, *Wissenschaft - Berge - Ideologien Johann Jakob Scheuchzer und die frühneuzeitliche Naturforschung/ Scienza - montagna - ideologie Johann Jakob Scheuchzer e la ricerca naturalistica in epoca moderna*, (Basel, 2010).

scenes of interest that the author encountered on his travels.[147] The reports are written in Latin and as such form a part of the international mountain debate we have been following. Scheuchzer was a member of the Preussische Akademie der Wissenschaften in Berlin, the Accademia degli Inquieti in Bologna and a fellow of the Royal Society in London. Indeed, the Leiden edition even bears the *imprimatur* of the then president of the Royal Society—Sir Isaac Newton—after page six of the first year's travel report. Scheuchzer's *Itinera* have been little studied in modern scholarship. Still less attention has been paid to Scheuchzer's progressive aesthetic attitude towards the mountain. Along with an introduction to the man and his work, I present here the most exciting elements of Scheuchzer's forward-looking mountain aesthetic.

Scheuchzer was connected to the Royal Society through his friendship with John Woodward. The Swiss physician was Woodward's most enthusiastic continental supporter and the two men maintained a lively correspondence of over 100 letters back and forth between London and Zürich. Scheuchzer's own natural philosophical work draws heavily, if not exclusively, on the ideas of Woodward.[148] The Englishman, on the other side of the partnership, was interested in the stimulating evidence and samples that Scheuchzer had access to in the Alps. Scheuchzer reported on his findings as well as on his application and development of Woodward's ideas in the *Itinera Alpina* as well as in their correspondence.[149] Scheuchzer's reliance on Woodward's thinking is critical for understanding his positive approach to the mountain. In Woodward's theory—contrary to that of Burnet or Blancanus, for example—the mountains were part of God's grand design for the earth. The 'providential order' that Woodward saw in the form of the earth's surface after the Flood allowed Scheuchzer to look on the mountain landscape with

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[147] The engravings have been made conveniently accessible by the VIATICAPLES project run by the University of Lausanne and headed by Prof. C. Reichler. They can be viewed on the VIATIMAGES database: http://www2.unil.ch/viatimages/.

[148] Scheuchzer even translated Woodward's *Essay towards a Natural History of the Earth* into Latin for a continental audience. The work was published in Zürich under the title *Specimen Geographiae Physicae de Terra* in 1704.

[149] On Scheuchzer's connection with the Royal Society and its members see: Boscani Leoni, S., 2007, `La ricerca sulla montagna nel Settecento sotto nuove prospettive. Il network 'anglo-elvetico-alpino': 201-213 in Furter, R., Head-König, A-L., Lorenzetti, L. (eds.), *Histoire des Alpes / Storia delle Alpi /Geschichte der Alpen 12: Traditions et modernité /Tradition und Modernität* (Zürich, 2007) and M. Kempe, 2000, 'Die Anglo-Swiss Connection. Zur Kommunikationskultur der Gelehrtenrepuplik in der Frühauflärung', *Cardanus,* 1: 71- 91. For Scheuchzer's partnership with Woodward in particular see: J. M. Levine, 1991, *Dr. Woodward's Shield: History, Science, and Satire in Augustan England* (Cornell University Press), 40–42 and n. 92.

positive eyes. This enthusiasm for the mountain at the level of theory was also expressed in the way that Scheuchzer reacted to the mountains aesthetically.

An aesthetic approach is appropriate for the *Itinera* because the work, as a type of travel report, emphasises the visual and autoptic aspects of the expedition.[150] The travelogue style of narration lends itself to descriptive writing, which in turn makes Scheuchzer's aesthetic responses to the mountain environment easier to identify. The naturalist's scientific attention and natural philosophical approach to his environment brought him to see aesthetic qualities where few others had before. His appreciation of the mountain landscape often, however, extended beyond being dependant on cognitive grounds and led towards a more modern feeling for the mountains.

Scheuchzer positions his *Itinera Alpina* within the Latin tradition of mountain writing in Switzerland in the opening pages of the book. Indeed, he lets one of its best-known authors, Conrad Gesner, begin the book for him by quoting the opening passage from Gesner's *Epistola de montium admiratione* (1541).[151] In the letter, Gesner declares that he will undertake to ascend at least one mountain every year in order to gather botanical knowledge, to take exercise and also for the sake of *animi delectationis*, the delight of the mind. Through Gesner, Scheuchzer lays an early and programmatic emphasis on first person examination and observation of the Alpine environment, particularly of the mountains:

> *. . . vestigia Gesneri . . . secuturus, tum Helveticae Naturae miranda in genere, tum et in specie Montium curiosa quaecunque lustrare, rimari et ita describere.*[152]

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[150] See, for example, when faced with inclement weather Scheuchzer, *Itinera Alpina,* 482 (*Iter Septimum): Sed vicit, omnemque timorem discussit rarum naturae Helveticae spectaculum, quod abhinc non ultra 5 horas distet, videndi cupido.* Or, when discussing his travel along the Rhone: Scheuchzer, *Itinera Alpina,* 487 (*Iter Septimum*): *Prosequemur autem hoc iter . . . in ipsa Vallesia, sed et oculis* ὡς ἐν συνόψει*, contemplabimur Rhodani progressum.*

[151] See above chapter *Geographia, Prospectus, Pictura.*

[152] Scheuchzer, *Itinera Alpina,* 4 (*Iter Primum*). In keeping with the interests of Gesner and other early Swiss mountain writers, Scheuchzer also includes a section entitled *Observata Botanica* after eight of the nine books of the *Itinera*. A botanical interest plays a part, for example, in the ascension of the Stockhorn by Joannis Rhellicanus recorded in the *Stockhornias* and the ascensions of the Stockhorn and Niesen by Benedictus Aretius of the Calanda in 1559 by Joannis Fabricius. The significance of research excursions, particularly of a botanical nature, in the development of the study of natural history is treated in Findlen, P., 'Natural History' chp. 19 pp. 435-468 in Park, K. and Daston, L., 2006, *The Cambridge History of Science, Vol. 3: Early Modern Science,* Cambridge University Press: New York, particularly: 435-459.

> . . . I will follow in the footsteps of Gesner by examining and investigating both the marvels of Swiss nature in general and, in particular, the curiosities of the mountains, and by describing them as well.

xi) Scheuchzer's Natural Philosophy

Scheuchzer's approach to natural science colours his observations and descriptions throughout the *Itinera.* He considers God the architect of the mountains, referring to him among other things as the *summus conditor*, *deus creator* and *sapientissimus mundi architectus.*[153] Beginning from this Woodwardian position, Scheuchzer views the Alpine landscape as having been designed to perform functions of benefit to Switzerland and the rest of Europe, such as storing its waters, distributing them and guiding the winds. In one of many such episodes in the *Itinera,* he records his wonder at the wisdom of the creator as he considers:

> *. . . permagna utilitas, imo necessitas, quam Helveticae Alpes . . . praestant dispendendo, quas gignunt, nubes, ventos, aquas.*[154]

> . . . the exceptional use, or rather need, which the Swiss Alps fulfil in dispensing the clouds, winds and waters which they also produce.

Scheuchzer developed his natural philosophy most fully and explicitly in another, later work, the *Physica Sacra* of 1728.[155] Like many other theorists of the period, he attempted to combine the natural sciences and religion, using nature to defend scripture and scripture to interpret the findings of science. Just as his mentor Woodward, Scheuchzer concentrated his arguments around the fossils that collectors like himself were uncovering high up in the mountains, as well as in the apparent purposeful design of mountains for the dispersal of water and precipitation. Woodward's liquefied earth could account for fossilized remains of

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[153] Respectively: Scheuchzer, *Itinera Alpina,* 282 (*Iter Quartum*); Scheuchzer, *Itinera Alpina,* 430 (*Iter Sextum*); Scheuchzer, *Itinera Alpina,* 431 (*Iter Sextum*).
[154] Scheuchzer, *Itinera Alpina,* 88 (*Iter* Secundum). For a discussion of the connection between utility and beauty in Scheuchzer's work, with an emphasis on the *Physica Sacra*, see Kempe, *Wissenschaft, Theologie, Aufklärung,* chp. 6 'Schönheit und Nützlichkeit der Alpen'.
[155] J. J. Scheuchzer, 1731–35, *Physica sacra*, 4 vols. (Augsburg/Ulm)

sea animals appearing on the tops of mountains. It also allowed for the post-diluvian world to be shaped by God into a form fit for supporting life.[156]

Perceiving this order brought Scheuchzer to a recognition of the beauty which to be found in the mountain landscape. The connection between his scientific approach and the beauty he saw in the landscape is often expressed in terms of praise of the mountains' *utilitas,* as in the quote above. But Scheuchzer's appreciation of the beauty of the Alpine landscape can also be found in other contexts. Scheuchzer declares, for example, that he will not worry about the effort involved in making the breathless ascent of the Furkapass:

> *. . . quandoquidem animos recreabimus non tantum contemplatione plantarum rariorum, sed pulcherrimo rupium glacialium, quae Rhodani fontem constituunt, aspectu.*[157]
>
> . . . since I will revive my mind not only with the study of rare plants, but also with the most beautiful appearance of the icy cliffs which form the source of the Rhone.

Later, he describes in similar language the view of the mountains around the Walensee:

> *Recreabimus mentes, et pascemus simul oculos, aspectu Montium lacui utrinque adsitorum. Est hic veluti schola, quae nos informare poterit de origine et structura Montium, Vallium, Pascuorum.*[158]
>
> We will recuperate our minds and at the same time feast our eyes on the view of the mountains situated next to the lake on both sides. Here the view is like a teacher, who is able to tell us about the origin and structure of the mountains, valleys and pastures.

The effect of Scheuchzer's physico-theological approach on his aesthetic reaction to the mountain environment, which allowed him to see signs and proof of divinity in the 'Book of Nature', is clear throughout the work. But Scheuchzer often responds

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[156] Kempe, M., 2006, 'Sermons in Stone: Johann Jacob Scheuchzer's Concept of the Book of Nature and the Physics of the Bible': 111 – 120 in van Berkel, K. and Vanderjagt, A., *The Book of Nature in Early Modern and Modern History,* Peeters: Groningen. For a book length treatment of the deluge as one of the central points of the *Physica Sacra* see Kempe, *Wissenschaft, Theologie, Aufklärung.*
[157] Scheuchzer, *Itinera Alpina,* 272 (*Iter Quartum*).
[158] Scheuchzer, *Itinera Alpina,* 430 (*Iter Sextum*).

aesthetically to his mountainous surroundings without direct reference to their utility or to his natural philosophical position. He has a particular fondness for waterfalls and he remarks frequently, often in creative language, on their aesthetic effect:

> *Praecipitant se hic illic ingenti murmure spumantes catarrhactae, quae viatorum oculos animosque non parum delectant.*[159]
>
> Foaming waterfalls hurl themselves down here and there with an immense roar, delighting no little the eyes and minds of travellers.

Only six pages later another waterfall catches Scheuchzer's eye:

> *Praeceps ruit ex Monte Savoniensi insignis latitudinis atque altitudinis (quam centumpedalem circiter aestimavi) catadupa, qua pulchriorem hactenus non vidi.*[160]
>
> A waterfall of significant width and notable height (which I estimated to be around 100 feet) rushes headlong down from Mount Savon; a more beautiful waterfall than this I haven't seen until now.

He also sees a rainbow in the spray from the falling water, and again four years later he would have the good fortune to arrive in the right conditions too see another one at the same spot:

> *Rursum ut anno 1703 sole ἀγαθῇ τύχῃ a tergo lucente fuimus ingressi, ut recrearemur jucundissimo iridis circularis spectaculo, quod non minus oculorum meretur obtutum, quam mentis scrutinium.*[161]
>
> Again, as in 1703, we had approached while the sun was luckily shining from behind us, so that we were restored by the sight of a circular rainbow, which merits no less the attention of the eyes than the scrutiny of the mind.

The pleasure garnered from observing waterfalls, and especially from the sight of a rainbow, is easy to understand, and that Scheuchzer frequently emphasises the

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[159] Scheuchzer, *Itinera Alpina,* 101 (*Iter Secundum*).
[160] Scheuchzer, *Itinera Alpina,* 107 (*Iter Secundum*).
[161] Scheuchzer, *Itinera Alpina,* 446 (*Iter Sextum*).

close relationship between the spheres of the *oculi* and *mens* or *animus* is not surprising given his scientific approach to the environment. However, this designation of a particular ocular appreciation of the mountain landscape sets these moments of visual pleasure within an aesthetic context and vocabulary. Further to this, and more remarkable, is Scheuchzer's response to landscape scenes and views throughout the *Itinera.* We remarked on such appreciation of 'views' and 'scenery' in the context of geographical and artistic activity in the previous chapter. Now it appears again in this natural scientific writing:

> *Navigantium oculos mentesque mirum in modum recreat amoenissimus in Alpes Suitenses, Glaronenses et Rhaeticas prospectus*.[162]
>
> The most beautiful view over the Schwyz, Glarus and Grisons Alps refreshes the minds and eyes of the travellers in a wonderful way.

And again, for example, after climbing the 'sufficiently steep and very high' Mount Soi, Scheuchzer and his companions have a moment to gaze over his surroundings:

> *Ex hoc montis apice jucundus patet per totam Vallem Leopontinam prospectus.*[163]
>
> From the summit of this mountain a delightful view spreads over the whole Leopontine valleys.

The word *prospectus* 'a view', or 'sight' is cognate with the English word prospect, which has strong aesthetic associations as I have argued in *Geographia, Prospectus, Pictura*. Scheuchzer thus frames the Alpine environment in such a way that he is able—and prepared—to make a judgement about its aesthetic qualities, in these cases its positive ones.[164]

Although Scheuchzer's appreciation of the mountain environment's beauty is frequently ostensible throughout the *Itinera Alpina*, he records another variety of aesthetic reaction to his surroundings. In this passage, the travelling party is crossing the Tamina gorge in the canton of St. Gallen:

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[162] Scheuchzer, *Itinera Alpina,* 468 (*Iter Septimum*).
[163] Scheuchzer, *Itinera Alpina,* 475 (*Iter Septimum*).
[164] For the idea of framing applied in modern nature aesthetics see T. J Diffey, 1993, 'Natural Beauty without Metaphysics' in S. Kemal, and I. Gaskell, 1993, *Landscape, Natural Beauty and the Arts* (Cambridge): 52.

> *Admirari lubet canalium ipsorum substructiones . . . porro saxorum imminentium et sese desuper claudentium a 20 ad 100 et 200 pedes altum horridumque aspectum, horridiorem tanto, ubi per fissuram vel aperturam quandam illabens lumen periculum, in quo versamur, detegit*.[165]
>
> It is pleasing to admire the foundations of the aqueducts . . . and furthermore the frightful view of the threatening rocks from 20 to 100 and even 200 feet high shutting themselves in overhead, and even more grim is where the light slipping through some crack or opening in the rock reveals the danger we are in.

This fear is followed directly by a recognition of the positive aesthetic qualities of part of the scene:

> *Iucundam admirationem insuper praebent saxorum undulatae et passim complanatae superficies, Taminnae quondam desuper fluentis et parietes petrosos elavantis manifesta vestigia.*
>
> Above, the smoothed and undulating surfaces of the rock present a delightful wonder, clear signs of the Tamina once flowing from above and washing clean the stony walls.

Once again, Scheuchzer's recognition of positive aesthetic attributes, even in a place he has just established as fearful and horrid, is tied to his scientific and natural historic interest in the landscape. The combination of the frightful and pleasant prospects is summed up in one sentence at the end of the passage after the author has wavered once more towards the awful in his description of crossing a small bridge over the gorge where the travellers feel they are put *in discrimen vitae* 'mortal danger' by the vertiginous sight and sound of the water rushing down the ghyll. Scheuchzer says:

> *Iucundissimum in horrido antro spectaculum sistit ex alto delabentis Taminnae torrentis aspectus.*
>
> The view down from above of the Tamina force falling down from on high provides a most delightful sight in the horrible cave.

[165] The following three citations are taken from Scheuchzer, *Itinera Alpina,* 153-4 (*Iter Tertium*).

Once away from the gorge, Scheuchzer offers an explanation for his apparently paradoxical reaction to the sights which he records in the passage following his appraisal of the view over the Schwyz, Glarus and Grisons alps cited above.[166] I repeat that sentence to give the material that follows its proper context:

> *Navigantium oculos mentesque mirum in modum recreat amoenissimus in Alpes Suitenses, Glaronenses et Rhaeticas prospectus. Non hic e vestigio surgunt immensae altitudinis juga, non percellunt formidine minantia casum saxa, procul abest omne, quod metum incutit, spectantur eminus secure, quae cominus sunt horrori.*[167]
>
> The most beautiful view over the Schwyz, Glarus and Grisons Alps refreshes the minds and eyes of the travellers in a wonderful way. Here those summits of immeasurable height don't rise out of the path, nor do rocks threatening to fall upset us with fear; everything that instils fear is far away, things which, up close, are viewed in awe, can be viewed untroubled from a distance.

Here Scheuchzer shows himself aware of the psychological effect of distancing on his aesthetic appraisal of the mountain scenery, and he recognises it as a functioning piece of apparatus in making visual judgements of his surroundings. Although developed out of the notion of 'disinterestedness', first proposed in the early eighteenth century (*The Characteristics of Men, Manners, Opinions, Times*, 1711) by Anthony Ashley Cooper, 3rd Earl of Shaftesbury, the concept of distance as it relates to aesthetics was only formulated again as explicitly as by Scheuchzer in Edmund Burke's *Philosophical Enquiry into our Ideas of the Sublime and the Beautiful,* first published in 1757.[168] The English philosopher explains:

> When danger or pain press too nearly, they are incapable of giving any delight, and are simply terrible; but at certain distances, and with certain

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[166] For another, strikingly paradoxical statement of the feeling see Scheuchzer, *Itinera Alpina,* 221 (*Iter Quartum*)*: Via iucunda simul est et horrida.*

[167] Scheuchzer, *Itinera Alpina,* 468 (*Iter Septimum*).

[168] Shaftesbury collected, edited and revised his works, he published them together under this title. His anthology of papers and articles has been recently edited: Klein, L. E. (ed.), *Characteristics of Men, Manners, Opinions, Times*, (Cambridge, 1999). For Lord Shaftesbury on aesthetics see*:* Stolnitz, J., 1961, 'On the Significance of Lord Shaftesbury in Modern Aesthetic Theory' *PQ,* 11 (44): 97-113; Stolnitz, J., 1961, 'On the Origins of "Aesthetic Disinterestedness"', *JAAC,* 20 (**2**): 131-143. On the concept of distance in aesthetics see: Ogden, J. T., 1974 'From Spatial to Aesthetic Distance in the Eighteenth Century' *JHI,* 35 (**1**) pp. 63-78. The article gives an account of the topic entirely focused on British vernacular sources as, too, do Stolnitz' papers cited above.

> modifications, they may be, and they are delightful, as we every day experience.[169]

The aesthetic concept of distance became a topic of much investigation during the eighteenth century and—in the nineteeth century—a characteristic of the Romantic attitude.[170] Even in more modern times the idea has been at the centre of debate.[171] Its significance, then, as a part of the way an early eighteenth century Latin writer like Scheuchzer evaluates the mountain landscape deserves to be underlined.

Growing out of his scientific approach to the Alpine environment, Scheuchzer developed a forward looking and innovative aesthetic appreciation of the mountain landscape that has recieved little scholarly attention until now. His aesthetic incorporated a cognitively derived acknowledgement of beauty in the perceived design of the Alpine environment for various uses. But the *Itinera Alpina* also provides examples of direct responses to beauty in the mountains, which is rare among other contemporary writers in Latin and, indeed, the vernaculars. Scheuchzer also has a feeling for the sublime and provides an early, Latin formulation of the notion of aesthetic distancing. He presents a uniquely progressive aesthetic attitude towards the mountain which was made available to an international audience in the Latin *Itinera Alpina.*

xii) Concluding Remarks

Scheuchzer's sensitivity to the beauty of the mountain is the product of the tradition of scholarly debate over the formation, function and face of the mountains. The accounts of the earth's creation, and the changes she had undergone all have an aesthetic framework guiding their theories and explanations of natural processes and phenomena, as I have shown. Blancanus' 'perfect sphere' had been warped to make it inhabitable. It would return to its natural shape with

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[169] E. Burke, 1757, *Philosophical Enquiry into our Ideas of the Sublime and the Beautiful* (London). Here I have used the second edition of 1759. This passage appears on p. 60.

[170] Ogden, 'From Spatial to Aesthetic Distance in the Eighteenth Century', 63.

[171] The notion was refreshed under the heading of 'Psychical Distance' in Bullough, E, 1912, 'Psychical Distance as a Factor in Art and an Aesthetic Principle' *BJP,* 5: 87-118, which gave rise to a debate over the usefulness of the idea, for example see: Longman, L., D., 1947 'The Concept of Psychical Distance', *JAAC*, 6: 31-36 and Dickie, G., 1961, 'Bullough and the Concept of Psychical Distance', *PPR,* 22: 233-38. For an overall view of the development of the concept, although without much emphasis on the early contributing ideas, see Cupchik, G. C., 2002, 'The Evolution of Psychical Distance as an Aesthetic Concept', *CandP*, 8:154- 187.

the passing of time. Luther saw ruin and decline all around him. This affected the way he saw the natural world as well: it was cursed and decayed in his theology. Pereius, on the other hand, knew useful mountains and therefore considered them fitting decoration for the earth as perfectly crafted by God.

Until Burnet, these aesthetic principles had remained in the background of natural philosophical and theological writing. Authors occasionally revealed their aesthetic 'guidelines' in scattered passages, but the *Theoria Sacra* presented the first sustained aesthetic commentary on the mountain. Burnet's mountains were part of a fearful and ruined world. It was perhaps the successor of Luther's decaying earth. His work prompted a violent response which criticised as much Burnet's science as his opinions on the aesthetics of the mountain. Out of this 'Controversy' sprang several rival theories and numerous shorter responses—many in Latin. Scheuchzer's journeys through the Alps were inspired by this contemporary natural philosophical debate about the mountain, and more specifically by John Woodward's ideas. Woodward had inherited the 'utility' approach to the mountain that we first met in Pereius' conception of the *Genesis* landscape. This gave him, and Scheuchzer, a reason to see the mountain as a positive phenomenon which propitiously guided the winds and waters.

Striding into the mountains in the footsteps of Conrad Gesner, Scheuchzer applied his natural philosophical thinking to the landscape at his feet. His approach produced a sophisticated and progressive aesthetic response to the mountain which Scheuchzer recorded in his travelogue and report, the *Itinera Alpina.* This little read Latin work is a critical document for the history of the change in aesthetic appreciation of the mountain. It is arguably the first to demonstrate an aesthetic sensitivity to the mountain which we recognise and share today.

5. Aesthetics of Nature: The Case of the Mountain Mentality Change

i) Introduction

In the first chapter we saw that the mountain received relatively little aesthetic attention in Classical and Biblical literature: the few examples of real aesthetic focus are either negative or at best neutral judgments of the mountain's aesthetic qualities. *Geographia, Prospectus, Pictura* next traced the development of an idea of the mountain and the mountain landscape as objects worthy of aesthetic appreciation in the sixteenth century. This process took place in the space between new, progressive ways of looking at nature and the landscape in geographical and artistic contexts. As soon as the mountain became the object of aesthetic consideration in key examples such as Conrad Gesner's *Epistola de Montium Admiratione* (1541) the texts provide ample evidence of an emerging positive aesthetic attitude towards the mountain.[1] *Theologia et Philosophia Naturalis* followed the increasingly spirited debate over the origins and function of the mountain in theological and natural philosophical texts from the mid-sixteenth to the early eighteenth century. Here too, more focused study of the mountain made its aesthetic properties more easily accessible to Early Modern thinkers. The texts showed how aesthetic concepts could cross over from theory to observation and *vice versa*—a thinker's aesthetic conception of nature could be motivated by his theoretical position on its creation, for example, or a theorist could develop a hypothesis on the origins of the world based on his aesthetic ideas about nature.[2] When these cognitive factors were combined with an ability to conceive of the mountain as an aesthetic object in first hand engagement with the Swiss Alps, we saw a developed aesthetic appreciation of the mountain emerge in the *Itinera Alpina* (1723) of J. J. Scheuchzer.[3]

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[1] For my analysis of Gesner's *Epistola* and his later *Descriptio Montis Fracti* see the opening pages of the chapter *Geographia, Prospectus, Pictura* above: subchapter ii) Prospectus—*Gesner Frames the Mountain.*

[2] Here the example of Josephus Blancanus' 1619 *Sphaera Mundi* in *Theologia et Philosophia Naturalis* subchapter vi) *A Smooth Primaeval Earth—Josephus Blancanus*, is illustrative: the Jesuit built his theory about the formation of the earth as we know it on explicitly aesthetic grounds. The earth was spherical since the sphere was the most perfect of all shapes. It had been warped by God to provide a habitat for mankind, but various processes would return it to its natural and perfect state. The mountain, then, was a part of the unnatural shape of the earth and as such receives a less than positive aesthetic presentation in his theory.

[3] For Scheuchzer see: *Theologia et Philosophia Naturalis* subchapters: x) *Scheuchzer's* Itinera Alpina *and the Changed Mountain Aesthetic* and xi) Scheuchzer's Natural Philosophy.

So far, then, we have traced a progressive shift in the aesthetic appreciation of the mountain in Early Modern Latin texts. In tracking this change in mentality, it has also been possible to identify the processes that brought it about: the mountain was made available as an aesthetic object by new ways of looking at the landscape; then slightly later, concepts of the mountain began to change in theoretical discussions about the history of the earth. These two factors were accompanied by a growth in interest in the mountain more generally, so that by the mid-eighteenth century numerous studies of the mountain in particular were making their way to press. This Latin story has never been told. The fresh conclusions it draws shed new light on the development of our aesthetic conception of the mountain. In this chapter I will consider the implications of these conclusions for the modern debate over the appreciation of nature in philosophical aesthetics.

ii) The Appreciation of Nature in Modern Philosophical Aesthetics—An Overview

The aesthetics of nature—or Environmental Aesthetics—is a relatively young branch of philosophical aesthetics which has been developed intensively over the last fifty years. It emerged in response to the almost exclusive focus of traditional analytical aesthetics on the philosophy of art, and as a consequence of intensified attention to nature in recent decades inspired by the environmentalist movement. Despite attempting to distance itself from the earlier tradition of aesthetic (art) philosophy, many contemporary ideas in environmental aesthetics have their roots in the work of eighteenth and nineteenth century thinkers.

ii. α) Historical Background: From Aesthetics of Nature to Aesthetics of Art

In eighteenth century thinking, nature became the paradigm of aesthetic experience. Philosophers developed the notion of disinterestedness as the chief characteristic of this experience.[4] The concept was given its canonical treatment in

[4] The classic account of disinterestedness is developed in Kant, *Critik der Urteilskraft* (1790), Erstes Buch, Analytik des Schönen §1 - §5, see in particular §2, pp. 39–48, "*Das Wohlgefallen, welches das Geschmacksurteil bestimmt, ist ohne alles Interesse*" in *Kritik der Urteilskraft* ed. Karl Vorländer (Leipzig, 1922). For the development of the idea of disinterestedness, with a particular emphasis on the

Kant's *Kritik der Urteilskraft* (1790) which takes nature as the model aesthetic object.[5] Disinterestedness was a key component in this conception of aesthetics—it disassociated aesthetic appreciation from any interests (economic, personal, religious) that might hamper the aesthetic experience of nature which Kant saw as superior to that of art.

The notion of disinterestedness also supplied the framework for the development of the three aesthetic categories in which the aesthetics of nature were understood: the beautiful, the sublime and the picturesque. Edmund Burke's *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful (1757) provides a traditional account of two of these categories.*[6] *But it was the third that would come to have the most influence. While beautiful things were small and orderly, and the sublime described appreciation on the verge of fear in front of grand and threatening nature, the picturesque occupied the space in between. It was where variety, complexity and energy in nature were appreciated as if in a picture. William Gilpin, English artist, author and clergyman, put together one of the canonical formulations of the picturesque in his Three Essays: On Picturesque Beauty; On Picturesque Travel; and on Sketching Landscape: to which is Added a Poem, On Landscape Painting* (1792). Gilpin's work concentrates on the picturesque more as a set of guidelines for depicting landscape than attempting to develop a comprehensive theory. This was left to writers like Uvedale Price and his cousin Richard Payne Knight whose respective works: *Essay on the Picturesque, As Compared with the Sublime and The Beautiful* (1794) and *An Analytical Inquiry into the Principles of Taste* (1805) form the core of the so-called 'Picturesque Debate'.[7]

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contributions of English philosophers Francis Hutcheson, Archibald Alison and Lord Shaftesbury, see: Stolnitz, J., "On the Origins of 'Aesthetic Disinterestedness,'" *JAAC* 20, **2** (1961): 131–143. For the role of Lord Shaftesbury in particular see: Stolnitz, J., "On the Significance of Lord Shaftesbury in Modern Aesthetic Theory," *PQ* 11, **43** (1961): 97–113.

[5] For the comparison of the beauty of art and of nature in Kant see *Kritik der Urteilskraft* §45, pp. 159-60 in Vorländer's 1922 edition. For a useful overview of Kant's theory of beauty in general see: J. Kneller, "Kant's Concept of Beauty," *HPQ* 3, **3** (1986): 311–24; M. L. Johnson, "Kant's Unified Theory of Beauty," *JAAC* 38, **2** (1979): 167–78. For a recent essay on the relationship between aesthetics of nature and art see: U. Abaci, "Kant's Justified Dismissal of Artistic Sublimity," *JAAC* 66, **3** (2008): 237–51. Carlson, A., "Environmental Aesthetics," in *The Stanford Encyclopedia of Philosophy,* ed. Edward Zalta, 2012, provides a good overview of the historical roots of Environmental Aesthetics as well as the discipline as a whole.

[6] Burke, E., *A Philosophical Enquiry into the Origin Of Our Ideas of the Sublime and Beautiful* (London, 1757). I have used the second edition with major additions published in 1759, again in London.

[7] The scholarship on the picturesque, its history and development, is both well established and plentiful. The works that I have found most helpful have been: Hussey, C., *The Picturesque: Studies in a Point of View* (London, 1927); Hipple, W. J., *The Beautiful, The Sublime And The Picturesque In Eighteenth Century British Aesthetic Theory* (The Southern Illinois University Press, 1957); M. Andrews, *The Search for the Picturesque: Landscape Aesthetics and Tourism in Britain, 1760-1800* (Scolar Press, 1989); J. Conron, *American Picturesque* (Penn State Press, 2000); Ross, S., "The Picturesque:

The picturesque was the leading influence on both the popular and philosophical appreciation of nature for over a century. Indeed, it still exercises considerable sway over the way that nature is commonly appreciated today—the so-called 'postcardesque'.[8] But its eventual reduction to dependence on landscape art opened the way to a new philosophical aesthetics that favoured art as the superior object of appreciation. Hegel's aesthetics positioned art as the highest form of expression and therefore worthiest of aesthetic attention. While nature was capable of formal beauty, real beauty was only possible in works of art produced by other minds to demonstrate the 'Spirit of Freedom'.[9]

ii. β) Neglect and Rebirth of Aesthetics of Nature

After Hegel, the philosophical study of aesthetics was almost entirely dedicated to art. The low ebb of work on nature and the domination of theories constructed around art had two important implications for environmental aesthetics. The first—and worst—was the idea that aesthetic appreciation of nature was in fact impossible. This rejection of an aesthetics of nature relied on the idea that an object must have been designed by one intellect in order to be able to be aesthetically appreciated by another.[10] The second result was that aesthetic theory—dominated by art—gave particular weight to appreciations of nature based on picturesque ideas, thereby keeping the aesthetics of nature dependent on art.[11]

In the second half of the twentieth century, however, investigation into the aesthetics of nature saw a renewal of interest. This was in part a response to

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An Eighteenth-Century Debate," *JAAC* 46, **2** (1987), 271-279. The details of the major works of Gilpin, Payne Knight and Price are as follows: Gilpin, W. 1792, *Three Essays: On Picturesque Beauty; On Picturesque Travel; and on Sketching Landscape: to which is Added a Poem, On Landscape Painting* (London); Price, U. 1794, *Essay on the Picturesque, As Compared with the Sublime and The Beautiful.* (London); Payne Knight, R. 1805, *An Analytical Inquiry into the Principles of Taste* (London).

[8] Crawford, D., "Scenery and the Aesthetics of Nature," in *The Aesthetics of Natural Environments*, ed. Carlson, A. and Berleant, A. (Mississauga, Canada, 2004), 259.

[9] Carlson, "Environmental Aesthetics". Hegel's position on the superiority of art as object of aesthetic appreciation can be found *inter alia* in the second book of his *Vorlesungen über die Philosophie der Kunst* which were published after his death in 1823. See: Hegel, (T. M. Knox trans.), *Aesthetics: Lectures on Fine Art* (Oxford, 1998), specifically p. 159.

[10] Mannison, D., "A Prolegomenon to a Human Chauvinist Aesthetic," in *Environmental Philosophy*, ed. Mannison, D., McRobbie, M., and Routley, R. (Canberra, 1980), 212–16.

[11] For an account of the relationship between art and landscape appreciation see Rees, R., "The Scenery Cult: Changing Landscape Tastes over Three Centuries," *Landscape* 19, **3** (1975): 39–47. For accounts of natural aesthetics which build on a notion of landscape and formal properties in nature see: Stecker, R., "The Correct and the Appropriate in the Appreciation of Nature," *BJA* 37 (1997), 393-402; Crawford, D., "Scenery and the Aesthetics of Nature".

growing concern over the deteriorating state of the natural environment. Many thinkers worked to give theoretical structure to the emerging environmental movement as nature began to be protected on aesthetic grounds. National Parks for example and, in Britain, Areas of Outstanding Natural Beauty were regions protected on frequently vague aesthetic notions, still loosely associated with the picturesque. This approach could range from using design factors to appraise nature—referring to "form, contrast, distance, colour, light, and angle of view"—to attempts to measure the aesthetic value of a part of nature by performing calculations on aesthetic 'data' collected by deconstructing a landscape into various zones (sky, water, trees, shrubs etc.) and measuring their sizes.[12] Critics saw that these processes lacked a solid conceptual framework. They faulted policy makers' emphasis on scenic beauty over ecological or expressive concerns, among others issues.[13] As one theoretician succinctly formulates it, the early art-based approaches to appreciating value in natural aesthetics failed to see nature "as nature".[14]

The turning point—frequently acknowledged as such in much of the scholarly literature that followed it—came with Ronald Hepburn's 1966 article "Contemporary Aesthetics and the Neglect of Natural Beauty".[15] Hepburn describes the dependence of the study of aesthetics on philosophy of art before showing that art appreciation is a model unfit for the appreciation of nature (45-54). He then goes on to show that the distinction between "deep" and "serious", and "shallow" or "trivial" aesthetic appreciation is applicable to the aesthetics of nature

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[12] Carlson, A., "Formal Qualities in the Natural Environment," *JAE* 13, 3 (1979) cites these two examples on 100-101, ff.3-4. The first is from the USDA Forest Service Handbook no. 434, *National Forest Landscape Management,* Vol 1., pp 7, 23-47, and the second, more extreme example is from Shafer, E. L. *et al.* "Natural Landscape Preferences: A Predictive Model" *JLR* (1969) **1,** 1-19. I have quoted following Carlson.

[13] Sagoff, M. "On Preserving the Natural Environment," *YLJ* 84, **2** (1974): 205–267; Carlson, "Formal Qualities in the Natural Environment" (1979).

[14] Budd, M., "The Aesthetics of Nature," *PAC* 100, New Series (2000): 137–157. In short, the idea of appreciating nature "as nature" means methodically retaining nature's existence as nature—and not as anything else—in any aesthetic judgement. For a book length treatment of the idea of appreciating, nature "as nature" see*:* Budd, M., *The Aesthetic Appreciation of Nature* (Clarendon Press, 2002).

[15] The essay first appeared as: Hepburn, R. W., "Contemporary Aesthetics and the Neglect of Natural Beauty," in *British Analytical Philosophy*, ed. Williams, B. and Montefiore, A. (London, 1966), 285–310. It then later appeared in a shortened form as: Hepburn, R. W., "Aesthetic Appreciation of Nature," in *Aesthetics in the Modern World*, ed. Osborne, H. (London, 1968), 49–66. It was then reprinted in: Hepburn, R. W., *"Wonder" and Other Essays: Eight Studies in Aesthetics and Neighbouring Fields* (Edinburgh,1984) and as an introduction to: Carlson A., and Berleant, A. eds., *The Aesthetics of Natural Environments* (Peterborough, Ontario.; Orchard Park, NY, 2004) 9–35. For a general overview of Hepburn's contributions to the field see*:* Brook, I., "Ronald Hepburn and the Humanising of Environmental Aesthetics.," *EnvironV* 19, 3 (2010): 265–271. In what follows I cite pages from the reprint in Carlson and Berleant (2004).

as well as in art appreciation, where the concepts were developed (55-58).[16] Hepburn's article asked many of the questions that theorists in natural aesthetics are still working to answer. Many of the examples he originally used to illustrate his arguments are frequently referred to in the later literature in the aesthetics of nature.[17] In establishing the direction of the modern debate over the aesthetics of nature Hepburn also cites liberally from literary sources, including Wordsworth, Coleridge and T. S. Eliot, to elucidate his ideas.[18] This side of Hepburn's seminal article has been taken up less enthusiastically by the following scholarly work. I will return to the place of the literary tradition in establishing an aesthetics of nature later in this chapter when I demonstrate the implications of this thesis' conclusions for the field.

iii) Current Positions in the Aesthetics of Nature

The discipline as it stands can be divided into two groups. The two sides are most commonly referred to with the terms "cognitive" and "non-cognitive", although other labels are also in use.[19] I will use the more common terminology in what follows.

iii. α) Cognitive Positions

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[16] For the concept of "serious" and "deep" appreciation in the philosophy of art see: Hospers, J., Meaning and Truth in the Arts (University of North Carolina Press, 1948). For these concepts applied in the methodology of the aesthetics of nature *v. e.g.* Carlson, A., "The Requirements for An Adequate Aesthetics of Nature," *EP* 4, **1** (2007): 1–13.

[17] For example, Hepburn argues that an aesthetics of nature must be able to account for the changeability of nature's appearance (50). He imagines a muddy, sandy expanse which might at first give a viewer the impression of "wild, glad emptiness". But upon finding out that it is, in fact, a tidal basin at low tide, the viewer might now experience a "disturbing weirdness" when he or she realises that where they are standing us underwater for half of the day. Carlson picks up this example and uses it to reinforce his point about the importance of science to provide necessary information for the appreciation of nature in: "Nature, Aesthetic Judgment, and Objectivity," *JAAC* 40, **1** (1981): 15–27.

[18] On pages 47, 50 and 57 and 51 respectively.

[19] The majority of thinkers in the field use the terms "cognitive" and "non-cognitive". See. *e.g.:* Carlson, A. and Berleant, A., *The Aesthetics of Natural Environments*; Godlovitch, S., "Evaluating Nature Aesthetically," *JAAC* 56, **2** (1998): 113–125; Eaton, M. M., "Fact and Fiction in the Aesthetic Appreciation of Nature," *JAAC* 56, **2** (1998). In the most recent introduction to the discipline these are also the terms in use: Carlson, A., *Nature and Landscape: An Introduction to Environmental Aesthetics* (New York, 2013). Moore, R., uses the terms "conceptual" and "non-conceptual" to describe the same split in "Appreciating Natural Beauty as Natural," *JAE* 33, **3** (1999): 42–60. In an article that highlights the divide in the discipline and addresses it specifically, the terms "narrative" and "ambient" are used by Foster, C., "The Narrative and the Ambient in Environmental Aesthetics," *JAAC* 56, **2** (1998): 127–137. This article is useful for providing a clear picture of the theoretical split and its implications, but its idiosyncratic choice of terminology is unhelpful.

Cognitive stances are those underpinned by the belief that knowledge about a natural phenomenon is essential for an appropriate and serious appreciation of it. Knowledge, the theorists in this camp claim, allows nature to be appreciated as it is—"as nature" or "on its own terms".[20] Despite the importance of appreciation of "nature as nature"—not as art—for these thinkers, and their rejection of ideas informed by the picturesque as a result, there is a tendency among cognitive theorists to look to art appreciation in developing an account of an adequate appreciation of nature. The strongest and most influential instance of a cognitivist's drawing on the tradition of art is perhaps Carlson's adoption of Kendall Walton's concept of "Categories of Art".[21] Carlson's is the leading cognitive account in environmental aesthetics, and in many respects the leading approach overall. It argues, broadly, that just as art history and theory provide the knowledge necessary for deep and serious appreciation of art, natural science and its analogues provide the information required for an appropriate appreciation of nature.[22] Given this position's prominence and the fact that this chapter addresses his model directly, I will provide a more detailed account of Carlson's theory below.

Another set of cognitive positions emphasises the importance of other types of information outside of natural science. These include cultural and historical traditions, regional and folk stories as well as mythology. Depending on the strength of these positions, they either present themselves as alternatives to natural science or complementary to it.[23] While these approaches differ from Carlson's

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[20] For the former see: Budd, "The Aesthetics of Nature"; Budd, *The Aesthetic Appreciation of Nature*; A. Carlson, "Budd and Brady on the Aesthetics of Nature," *PQ* 55, **218** (2005): 106–113. Saito, Y., "Appreciating Nature on Its Own Terms," *EE* 20, **2** (1998): 135–149 formulates the idea as "on its own terms".

[21] Carlson, A., "Nature, Aesthetic Judgment, and Objectivity"; Walton, K., "Categories of Art," *PR* 79 (1970): 334–67.

[22] Carlson, A., "Formal Qualities in the Natural Environment"; Carlson, A., "Nature, Aesthetic Judgment, and Objectivity"; Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture* (London, 2000); Eaton, M. M., "Fact and Fiction in the Aesthetic Appreciation of Nature"; Matthews, P., "Scientific Knowledge and the Aesthetic Appreciation of Nature," *JAAC* 60 (2002): 37–48; Rolston, H., "Does Aesthetic Appreciation of Nature Need to Be Science Based?," *BBJA* 35 (1995): 374–386; Parsons, G., "Theory, Observation, and the Role of Scientific Understanding in the Aesthetic Appreciation of Nature," *CJPhil* 36, **2** (2006): 165–186; Parsons, G., "Nature Appreciation, Science and Positive Aesthetics," in *Nature, Aesthetics and Environmentalism: From Beauty to Duty* (New York: Columbia University Press, 2008), 302–318.

[23] Sepänmaa, Y., *The Beauty of Environment: A General Model for Environmental Aesthetics*, 2nd ed., Envrionmental Ethtics Books (Denton, 1993); Sepänmaa, Y., "Environmental Stories: Speaking and Writing Nature," in *The Aesthetics of Natural Environments*, ed. Carlson, A. and Berleant, A. (Peterborough, Ontario; Orchard Park, NY, 2004), 283–97; Saito, Y., "Appreciating Nature on Its Own Terms"; Heyd, T., "Aesthetic Appreciation and the Many Stories about Nature," in *The*

model in addressing the type of information required for the appropriate appreciation of nature, another line of thought questions the extent to which knowledge of any sort can reveal aesthetic qualities in nature. This approach remains broadly cognitive in that its chief requirement is that nature be appraised "as nature"—the appreciator must have enough cognitive information to know that he is looking at nature and not something else. The viewer's commitment to cognitive factors, however, ends there. This means that, unlike the case of art, the aesthetic appreciation of nature is allowed a good deal of freedom.[24]

iii. β) Non-cognitive Positions

The leading non-cognitive position is referred to as the engagement model. It has grown out of a more general criticism of the idea of disinterestedness, which has long been central to appreciation both of art and nature in aesthetic theory. The leading proponent of this view, Arnold Berleant, argues that the disinterested gaze is a flawed concept and one inappropriate to aesthetic appreciation. This is most obvious in the case of aesthetic appreciation of nature, where the abstraction and objectification of natural phenomena—and thus the separation of the viewer from the natural environment—would constitute an inappropriate and impossible isolation of natural objects and human appreciators from their environment.[25] The engagement model emphasises the multi-sensory aspects of aesthetic appreciation arguing for the immersion of the appreciator in the object of appreciation.

The alternative non-cognitive models have another concept at the centre of their approach. Three such models stand out in the scholarly literature: The arousal model proposes that emotional arousal by nature is the key to appropriate appreciation of the environment. This more instinctual approach suggests that "to

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Aesthetics of Natural Environments, ed. Carlson, A. and Berleant, A. (Peterborough, Ontario.; Orchard Park, NY: Broadview Press, 2004), 269–82.

[24] Budd, "The Aesthetics of Nature"; Budd, *The Aesthetic Appreciation of Nature*; Fisher, J. A., "What the Hills Are Alive with: In Defense of the Sounds of Nature," *JAAC* 56 (1998): 167–179. Budd develops his quasi-cognitive model—requiring the appreciation of nature "as nature" in his monograph (2002) particularly pp. 89-109.

[25] Berleant's rejection of disinterestedness in relation to art can be found in: Berleant, A., *Art and Engagement* (Philadelphia, 1991). For the engagement model and the aesthetics of nature *v.*: Berleant, A., *The Aesthetics of Environment* (Philadelphia, 1992); Berleant, A., *Aesthetics and Environment: Variations on a Theme* (Aldershot, 2005).

be moved by nature is to respond to the features of natural expanses—such as scale and texture—with the appropriate emotions".[26]

The so-called mystery model—in contrast to the engagement model of Berleant and Carroll's arousal approach—argues for a gap between humanity and nature that can never be bridged. This distance leaves the appreciator with a sense of separation and a lack of understanding of the natural world. He or she is left in a state of appreciative mystery about the natural environment.[27]

The third approach accepts some distance between appreciator and the object appreciated, but it admits notions of engagement too. It finds a middle way between the two by placing imagination at the centre of its model. By developing a notion of "imagining well", Emily Brady escapes concerns about the subjectivity of imagination in her model. Appropriate, imaginative aesthetic appraisal of nature should be guided by the object under appreciation and ought to be tempered by disinterest on the part of the viewer.[28]

iv) The Natural Environmental Model

Allen Carlson's cognitivist approach emphasises the role of natural science in appropriate aesthetic appreciation of nature. He has called it the natural environmental model.[29] Carlson has not only contributed a greater volume of scholarship to the environmental aesthetics debate than any other theorist, his work has also provoked the most response—both in support and offering criticism—from other scholars in the field.[30] Carlson's model has also the near unique benefit of

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[26] Carroll, N., "On Being Moved by Nature: Between Religion and Natural History," in *Landscape, Natural Beauty and the Arts* (Cambridge, 1993), 244–66. The citation, which forms part of Carroll's conclusion, is to be found on p. 265.

[27] Godlovitch, S., "Icebreakers: Environmentalism and Natural Aesthetics," *JAP* 11 (1994): 15–30.

[28] For an introduction to the "imagination model" *v.* Brady, E., "Imagination and the Aesthetic Appreciation of Nature," *JAAC* 56, **2** (1998): 139–147. The notion of "imagining well" is developed particularly on 145-146. In this article, Brady also introduces various categories of imagining: *ampliative*, *associative, exploratory, metaphorical, projective* and *revelatory*. These categories help to guide the process of imagining well. An expanded treatment of the model, positioned in the context of the discipline more broadly can be found in: Brady, E., *Aesthetics of the Natural Environment* (Edinburgh, 2003). Carlson, A., "Budd and Brady on the Aesthetics of Nature" reviews the imagination model alongside Budd's concept of nature "as nature". His article, although ultimately arguing for his own science-based model, provides a helpful overview of Brady's approach.

[29] A. Carlson, "Appreciation and the Natural Environment," *JAAC* 37, **3** (1979): 267–275. The model is also referred to as scientific cognitivism in G. Parsons, "Nature Appreciation, Science, and Positive Aesthetics," *BJA* 42 (2002): 272–295.

[30] Carlson's bibliography of 21 entries in the *Stanford Encyclopedia of Philosophy* easily doubles that of any other scholar, see: "Environmental Aesthetics," in *The Stanford Encyclopedia of Philosophy*, ed.

having a strong conceptual grounding while admitting a degree of flexibility that many other approaches will not support. While it is certainly true that Carlson has held fast to his core notion that knowledge—and specifically natural scientific knowledge—should inform and guide the appropriate aesthetic appreciation of nature, his model has shown itself to be particularly accepting of additions and fine-tuning over the course of its elaboration.[31]

At its core, the natural environmental model advocates two things—in Carlson's own words:

> First, that, as in our appreciation of works of art, we must appreciate nature as what it in fact is, that is, as natural and as an environment. Second, it recommends that we must appreciate nature in light of our knowledge provided by the natural sciences, especially the environmental sciences such as geology, biology and ecology.[32]

Carlson answers these requirements and builds his position using the philosophical and psychological claims made in Kendall Walton's 1970 article *Categories of Art*.[33] Walton shows that the aesthetic properties which a object is

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Edward N. Zalta. For a selection of articles, among very many others, that respond to or build upon his work, demonstrating the wide range of areas in which it has had in influence see*:* Stecker, R., "The Correct and the Appropriate in the Appreciation of Nature"; Eaton, M. M., "Fact and Fiction in the Aesthetic Appreciation of Nature"; Nick Zangwill, "Formal Natural Beauty," *PAS* 101, (2001): 209–224; Matthews, P., "Scientific Knowledge and the Aesthetic Appreciation of Nature"; Brook, I., "Wilderness in the English Garden Tradition: A Reassessment of the Picturesque from Environmental Philosophy," *EthandEnv* 13, **1** (2008): 105–119; Parsons, G., "Nature Appreciation, Science and Positive Aesthetics."

[31] This adaptability and flexibility of the model can be evidenced with two examples: In Carlson, A., "Nature, Aesthetic Appreciation, and Knowledge," *The Journal of Aesthetics and Art Criticism* 53, no. 4 (1995): 393–400, Carlson offers a critique of Godlovitch, S., "Icebreakers: Environmentalism and Natural Aesthetics" and Carroll, N., "On Being Moved by Nature: Between Religion and Natural History". Both of these models are in the non-cognitive camp and emphasis the mysterious and arousing in the aesthetics of nature respectively (*v.* n.24, n. 25). Carlson at once exposes weaknesses in these models and shows how, with these flaws identified, they collapse into his own natural environmental model. Similarly, in Carlson, A., "Budd and Brady on the Aesthetics of Nature"; Carlson reviews Budd, *The Aesthetic Appreciation of Nature* and Brady, E., *Aesthetics of the Natural Environment*. Budd is the chief proponent of the 'minimal' cognitive approach—nature *as nature*—(*v.* n.18), while Brady's model is that emphasizing imagination (*v.* n.26). Again, Carlson points out the gaps in these approaches and then fills them with the natural environmental model. In both of these cases, Carlson not only shows where the alternative models fail, but simultaneously 'absorbs' them into the natural environmental model, enhancing and enriching his own account.

[32] Carlson outlines his theory in these words at Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*, 6. He initially developed his natural environmental model in Carlson, A., "Appreciation and the Natural Environment" (1979) and Carlson, A., "Nature, Aesthetic Judgment, and Objectivity" (1981). These essays are reprinted in Carlson's collection *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture* as chapters 4 and 5 respectively,

[33] Walton, K., "Categories of Art". Carlson's account of Walton's article and his use of the ideas in "Categories of Art" for the aesthetic appreciation of nature can be found in: Carlson, A., "Nature,

perceived as having are a product of the category under which it is viewed—his psychological claim. Thus, to use one of Walton's examples from the natural world, a small elephant might be appreciated aesthetically as "cute", "charming", "delicate" or "puny" by someone familiar with elephants and who recognises it as such. That same elephant, however, might appear "dominant", "threatening" or "lumbering" to someone who had only previously been familiar with a race of miniature elephants, or who did not know of elephants at all and mistook it for type of dog.[34] From here Walton goes on to show that the true aesthetic properties of an item are those that it appears to have when perceived in the correct category.[35] The correct category for an item is determined by its non-aesthetic, perceptual properties—a painting might appear to have the aesthetic property "threatening" because of its non-aesthetic properties such as the use of dark colours or angular composition.[36] Walton splits the non-aesthetic, perceptual properties of item into three types: "standard", "variable" and "contra-standard".[37] Walton formulates these terms as follows:

> A feature of a work of art is *standard* with respect to a (perceptually distinguishable) category just in case it is among those in virtue of which works in that category belong to that category—that is, just in case the lack of that feature would disqualify, or tend to disqualify, a work from that category. A feature is *variable* with respect to a category just in case it has nothing to do with works belonging to that category; the possession or lack of the feature is irrelevant to whether a work qualifies for the category. Finally, a contra-standard feature with respect to a category is the absence of a standard feature with respect to that category—that is, a feature whose presence tends to *disqualify* works as members of the category.[38]

The most famous example in Walton's account is that of Picasso's *Guernica* (1937). Taking the aesthetic appraisal "*Guernica* is awkward", Walton demonstrates the application of his perceptual properties "standard", "variable" and "non-standard": *Guernica* could conceivably be perceived as simply a painting, a cubist painting or

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Aesthetic Judgment, and Objectivity" and again reprinted in: Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture,* chapter 5.

[34] Walton, "Categories of Art," 350–1.

[35] Walton, "Categories of Art," 356.

[36] Walton, "Categories of Art," 337–8.

[37] Walton, "Categories of Art," 337–42.

[38] Walton, "Categories of Art," 339. The italics and bracketed words are Walton's own.

an impressionist painting, for example. The non-aesthetic property of flatness would be standard to all three categories. Being coloured would be variable to all three, while having cube-like shapes is variable for the first, standard for the second and contra-standard (or possibly variable) for the third. If a viewer makes a category error in perceiving *Guernica* as an impressionist painting, the opinion that "*Guernica* is awkward" may seem sensible. When it is perceived as a cubist painting, however, the cubic forms will appear standard and would no more support the idea that the painting is awkward than its flatness as a painting.[39] Walton then supplies the conditions for perceiving a work in the correct category (and therefore perceiving its correct aesthetic properties). These are: *i*) that the work will have a large number of features that are standard to that category and a minimum of contra-standard ones; *ii)* that a work will be better, more interesting or more aesthetically pleasing if perceived in that category; *iii*) that the artist who produced the work intended or expected it to be perceived in that category and *iv)* that that category is well established and recognised in the society in which the work was produced.[40] Walton's position—specifically his points *i*), *iii*) and *iv*)—require considerable knowledge on the behalf of the viewer in order to correctly appreciate a work of art: In the case of *Guernica*, a knowledge of twentieth-century art and cubist works would be essential. This is, indeed, precisely Walton's argument in *Categories of Art*. He intended specifically to show: ". . . that facts about the origins of works of art have an *essential* role in criticism, that aesthetic judgements rest on them in an absolutely fundamental way."[41]

The basis of Carlson's argument is that Walton's psychological claim about perception according to categories is also valid for nature. The example of the elephant given above already illustrates this, but Carlson expands on the application of Walton's idea of category perception to nature using an example from Hepburn's seminal 1966 "Contemporary Aesthetics and the Neglect of Natural Beauty":

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[39] Here I follow Carslon's account of Walton's position in: Carlson, A., "Nature, Aesthetic Judgment, and Objectivity" (Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture,* chapter 5). Carlson, in preparing the way for his own argument, picks out the salient points for his natural environmental model.

[40] Walton, "Categories of Art," 357–6.

[41] Walton, "Categories of Art," 337. The article was written as a refutation of the so-called "intentional fallacy". Walton singles out the seminal piece in the discussion over authorial intent for his discussion: M. Beardsley and W. Wimsatt, "The Intentional Fallacy," *The Sewanee Review* 54 (1946): 448–488, reprinted as M. Beardsley and W. Wimsatt, "The Intentional Fallacy," in *The Verbal Icon: Studies in the Meaning of Poetry* (Kentucky, 1954), 3–18. Italics, again, Walton's own.

> Suppose I am walking over a wide expanse of sand and mud. The quality of the scene is perhaps that of wild, glad emptiness. But suppose that I bring to bear upon the scene my knowledge that this is a tidal basin, the tide being out. I see myself now as virtually walking on what is for half the day sea-bed. The wild, glad emptiness may be tempered by a disturbing weirdness.[42]

The ideas of beach, tidal basin and sea-bed work here as categories. These categories are perceived and distinguished according to their non-aesthetic, perceptual properties: being a "wide expanse of sand and mud" would be standard, or perhaps variable, for both a beach and a tidal basin. But this description is contra-standard for a sea-bed which would, in a standard case, be underwater. Perceiving the scene under these different categories produces a varying aesthetic response. When seen as a sea-bed Hepburn's tidal basin assumes an atmosphere of "disturbing weirdness".

From this foundation Carlson makes his philosophical argument for the aesthetic appreciation of nature along the same lines as Walton in the case of art: where art history and theory supply the knowledge required to perceive an item in the correct category and therefore arrive at its true aesthetic properties, the natural sciences provide the appropriate categories for nature.[43] The psychological claim made by Walton moves easily over to the aesthetic appreciation of nature—the examples of the elephant and the tidal basin show that the category under which a natural object is judged based on perceptual properties affects the aesthetic properties it appears to have. The challenge that Carlson's model faces is to show that there exist such things as correct aesthetic judgements about nature and why natural science should provide them.

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[42] Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*, 60–1. The example first appears in Hepburn, R. W., "Contemporary Aesthetics and the Neglect of Natural Beauty," 55, for which see n. 13 above. Budd also cites this example at "The Aesthetics of Nature," 123.

[43] It should be noted here that in order to transfer Walton's philosophical argument over to the aesthetic appreciation of nature Carlson has work to do. Walton at "Categories of Art," 364, argues that in the case of a work of art about whose designer or history we know nothing, we would not be in a position to pass appropriate aesthetic judgment. His example is of a work of art discovered on Mars. Walton's position on the aesthetic appreciation of nature is the same: as there is no designer or cultural-historical knowledge to be had about nature, there is no appropriate aesthetic appreciation of it. Carlson acknowledges this obstacle and overcomes it in "Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture", 57–68. I return to this issue below under the subtitle *Theism and Positive Aesthetics.*

In the case of the elephant given above it seems clear that the correct category in which to perceive the animal is as an elephant and not as a dog, a sunset or mountain.[44] More difficult or complex cases reveal interesting points in Carlson's favour. Such a difficult case might occur when the perceptual properties of an object in nature do not clearly indicate a category: a whale might easily be perceived as a fish instead of as a mammal, for example, or a sea-anemone as a plant instead of an animal.[45] It would be plausible to argue that here the work of scientists or naturalists functions in an equivalent way to the work of art-historians or theorists in providing the correct category for any given work of art. Carlson argues exactly that.[46]

Even more effective is his extreme example of an artificial coastal landscape, which is perceptually indistinguishable from the natural coastline it was constructed to imitate.[47] In building the artificial coastline the landscapers moved a great deal of earth and sand, they removed buildings and shaped the surrounding area to blend in with their new artefact. In this case perceptual properties cannot distinguish the correct category for appropriate appreciation—the two could not apparently be perceived as anything but the same thing. However, the issue of correct appreciation can still be raised: is it correct to perceive the man-made landscape as an artefact, which is actually is, or as what it appears to be: a natural scene? A shallow, formal appraisal of both would result in the same aesthetic judgement because the two coastlines have the same lines, curves and colours.[48] But appreciating the constructed coastline as natural would be an aesthetic failure to appreciate it as what it is. Worse, it would be appreciation under a false description. An aesthetics of nature that failed to deal with this deception would be inappropriate at best. This establishes for Carlson an argument to determine correct and incorrect categories in the aesthetic appreciation of nature.

Carlson's advocacy of the natural and environmental sciences as the chief sources of appropriate information for determining the correct category of an item in nature—and from there its true aesthetic properties—is also illustrated by the example of the whale. Without the knowledge provided by science, the distinction

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[44] Carlson, A., "Nature, Aesthetic Judgment, and Objectivity," 20. For the example of the elephant see subchapter iv) *The Natural Environmental Model* above.
[45] Carlson, A., "Nature, Aesthetic Judgment, and Objectivity," 21.
[46] Carlson, A., "Nature, Aesthetic Judgment, and Objectivity," 21–22.
[47] Carlson, A., "Nature, Aesthetic Judgment, and Objectivity," 22–23.
[48] See subchapters viii) *Landscape and the Aesthetic Appreciation of Nature* and viii. α) *Carlson's Anti-formalism and New Formalism* below for formal properties in the aesthetic appreciation of nature.

between cetacea and fish might easily not be made. Perceiving the whale as a marine mammal as opposed to a fish might affect the aesthetic appraisal of the animal by bringing the viewer to a new appreciation of its massive bone structure, capable of dealing with the enormous pressures of the deep sea, or the mammal's ability to keep its blood warm in frozen waters, for example. On the other hand, if the whale is perceived as a fish, it might look bulky, cumbersome or even clumsy precisely because of its mammalian features, such as the blubber it keeps beneath its skin for insulation, its immense bone-structure or even its blowhole.[49]

A further point in favour of the relevance of the categories provided by natural science for aesthetic appreciation brings ethical concerns into the debate. Returning to the example of the artificial coastline, Carlson's argument runs as follows:

> What if we discover that it [the artificial coastline] causes environmental and ethical problems? Perhaps it greatly decreases the possibility of successful upstream migration by spawning salmon, or perhaps it causes an undercurrent that is exceedingly dangerous to swimmers. If we perceive the coastline in a category of natural coastline (and are entrenched in doing so), a sound ethical view might involve noting that fish and human beings have in such cases long accepted and met the challenges of nature. Consequently perhaps we understandably conclude that we should let nature take its course and swimmers take their chances. On the other hand, if we perceive the coastline in the category of artefact or human-made coastline, a sound ethical view might involve regarding our environmental and ethical responsibilities quite differently. Perhaps we, ethically and ecologically, should construct a fish ladder up the coast . . . and perhaps we, ethically, should forbid swimmers to use the area.[50]

Carlson himself notes that, on its own, this argument does not determine correct or incorrect categories of perception for nature, nor aesthetic properties. It does, however, demonstrate that there is an element of ethical merit in perceiving nature according to the correct categories. An aesthetics that can account for ethical concerns is surely more appropriate than one that cannot. This point is particularly

[49] The example of the whale perceived as a fish, as noted above, first appears in Carlson, A., "Nature, Aesthetic Judgment, and Objectivity". The importance of scientific knowledge in the correct perception of a whale as a fish is challenged by Carroll, N., "On Being Moved by Nature: Between Religion and Natural History". Carlson later defends his position with reference to this example in "Nature, Aesthetic Appreciation, and Knowledge". The whale appears once again in the literature in Matthews, P., "Scientific Knowledge and the Aesthetic Appreciation of Nature", where she offers support for Carlson's argument against Carroll.

[50] Carlson, A., "Nature, Aesthetic Judgment, and Objectivity," 24.

significant in the case of the aesthetics of nature where, as noted earlier in this chapter, much of the impetus for reconsidering this "neglected" part of philosophical aesthetics was born out of environmental and ethical concerns.[51]

Until 1995, Carlson's natural environmental model focused on arguing for the significance of the knowledge provided by the natural sciences for the aesthetic appreciation of nature. In response to Noel Carroll's 1993 outline of his arousal model, however, Carlson allowed that other forms of knowledge might function as "common-sense analogues" to hard scientific fact.[52] At the centre of the arousal model is a more emotional response to nature: Carroll submits that appropriate appreciation of nature can be achieved by "opening ourselves to its stimulus".[53] In this way the arousal model emphasises aesthetic response while aesthetic appraisal motivates the natural environmental model. The difference between them, Carlson argues, is, however, minimal. The whale is once again instructive: Carroll considers the knowledge that the whale is a mammal irrelevant. Regardless of categories, he is simply moved by the whale's "size, its force, the amount of water it displaces".[54] Carlson considers properties such as "size", "force" and notions such as the displacement of water to be, if not straightforwardly scientific, "at least the product of the common-sense predecessors or analogues of science".[55] He thus collapses the arousal model into the natural environmental model, seeing the type of knowledge Carroll prefers to be merely on the common-sense end of a sliding scale with more sophisticated scientific information at the other. Carlson still problematizes the perception of our whale as a fish—aesthetic appreciation of it as such would be inappropriate—and thus holds that natural science provides the most appropriate categories for the aesthetic appreciation of nature. But his acceptance of "common-sense analogues" of science, particularly in cultures where regional narratives,

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[51] On the connection of the aesthetic appreciation of nature to environmentalism and environmental issues see above p. 5 nn.10-15 and Carlson, A., "The Requirements for An Adequate Aesthetics of Nature," *Environmental Philosophy* 4, **1** (2007): 1–13; A. Carlson, "Contemporary Environmental Aesthetics and the Requirements of Environmentalism," *Environmental Values* 19 (2010): 289–314; M. M. Eaton, "The Role of Aesthetics in Designing Sustainable Landscapes," in *Real World Design: The Foundations and Practice of Environmental Aesthetics*, ed. Y. Sepämaa (Helsinki, 1997); Godlovitch, S., "Icebreakers: Environmentalism and Natural Aesthetics."

[52] Carroll presented his arousal model in "On Being Moved by Nature: Between Religion and Natural History", on which see n. 24 above. Carlson responds to Carroll in "Nature, Aesthetic Appreciation, and Knowledge" where he also deals with issues raised by Godlovitch's "mystery model", on which see n. 25 above.

[53] Carroll, N., "On Being Moved by Nature: Between Religion and Natural History," 254. This phrase is quoted by Carlson at "Nature, Aesthetic Appreciation, and Knowledge," 398.

[54] Carroll explains aesthetic response to the whale example in "On Being Moved by Nature: Between Religion and Natural History," 258.

[55] Carlson, A., "Nature, Aesthetic Appreciation, and Knowledge," 399.

folklore traditions or mythology might provide such knowledge to viewers, is a beneficial widening of his model.[56]

v) The Case of the Mountain Mentality Change: Further Elements and Ramifications of the Natural Environmental Model

This outline of the *état de question* in environmental aesthetics and the sketch of the leading model in the field—the natural environmental model—will serve as a basis to explore the implications of this thesis' conclusions for the aesthetics of nature. The polar shift in the aesthetic perception of the mountain, a natural phenomenon which continues to attract strong aesthetic reactions, produced our modern aesthetic attitude towards this substantial part of the natural environment. An analysis of the mechanisms that produced this change and their effects within the context of the modern debate in environmental aesthetics highlights deficiencies in some areas of current thinking and offers support and historical substantiation in others. The potential of such a historical approach has been recognised by theorists—Nicholson's *Mountain Gloom and Mountain Glory* invariably finds its way into their bibliographies.[57] But no serious attempt to explore what changes in historical attitudes towards nature can tell us about our modern aesthetic attitudes has been made.

I want to begin by briefly considering two methodological points before bringing the conclusions of the study's chapter two and three to bear specifically on: *i*) the role of natural science in the aesthetic appreciation of nature and; *ii*) the rejection of the idea of landscape in contemporary positions in philosophical aesthetics

vi) Methodological Considerations: Descriptive and Prescriptive Aesthetics

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[56] Thinkers who have championed these other sources of cognitive information about nature are: Sepänmaa, Y. in *The Beauty of Environment: A General Model for Environmental Aesthetics*; and "Environmental Stories: Speaking and Writing Nature"; Saito, Y. in "Appreciating Nature on Its Own Terms"; Heyd, T. in "Aesthetic Appreciation and the Many Stories about Nature." See n. 21 above.

[57] For the interest in a historical account of natural aesthetics with particular reference to the mountain in the modern literature see, e.g.: Carlson, A., "Nature, Aesthetic Judgment, and Objectivity", n.27 and Budd, *The Aesthetic Appreciation of Nature*, 66. Rees, R. gives an account of the rise of aesthetic interest in landscape using the example of the mountain in "The Scenery Cult: Changing Landscape Tastes over Three Centuries", 1975, but does not enter into the environmental aesthetics debate.

Many of the thinkers currently contributing to the field of natural aesthetics stand on the boundary between a *de*scriptive and *pre*scriptive approach. In fact, it is frequently on this boundary that their arguments are made: authors begin describing an example of aesthetic appreciation of nature and from there move on to prescribe the correct or appropriate way to appreciate the natural environment according to their model. Consider Carlson's use of Hepburn's tidal basin. An aesthetic response to what is initially perceived as a beach is described first: "The quality of the scene is perhaps that of wild, glad emptiness". Upon realising his beach is in fact a tidal basin: "The wild, glad emptiness may be tempered by a disturbing weirdness".[58] So far, so descriptive. But Carlson goes on to make his argument that knowledge provided by the natural sciences—in this case the knowledge that the supposed beach is in fact a tidal basin—is essential to perceiving the scene in the correct category and therefore reaching appropriate aesthetic judgements about it. This ends in a prescriptive point about how we ought to appreciate nature aesthetically: "if we are to make aesthetic judgements that are likely to be true and to be able to determine whether or not they are true; then we must know something about that which we appreciate . . . for the significant aesthetic appreciation of nature, something like the knowledge and experience of the naturalist is essential."[59]

The observation that theorists often move from the descriptive to the prescriptive in their writing touches on an important distinction in the philosophical study of the aesthetics of nature: that between the "trivial and serious". Hepburn elaborates this distinction in an article from whose title I quote.[60] While it is possible to respond aesthetically to an object in a trivial way—hastily and unthinkingly, as Hepburn puts it—the theoretical work in environmental aesthetics aims to establish a sound, appropriate and "serious" aesthetic response to nature. Such a serious or "thick" aesthetic response—as Carlson terms it—is desirable or, indeed, necessary when the value set on aesthetic responses in our relationship with

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[58] For this example, see n. 40 above. It was first used by Hepburn, R. W. in "Contemporary Aesthetics and the Neglect of Natural Beauty," 55. Carlson's expansion on the example appears in Carlson, A., Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture, 61. This is a reprint of Carlson, A., "Nature, Aesthetic Judgment, and Objectivity."

[59] Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*, 68.

[60] Hepburn, R. W., "Trivial and Serious in Aesthetic Appreciation of Nature," in *Landscape, Natural Beauty and the Arts*, ed. Kemal, S. and Gaskell, I. (Cambridge, 1993), 65–80.

nature is so high.[61] Think, for example, of regions protected as "Areas of Outstanding Natural Beauty" or the money to be made from tourism in "beautiful" holiday resorts. As one environmental thinker writes:

> What kinds of country we consider to be exceptionally beautiful makes a huge difference when we come to decide which places to save, which to restore or enhance and which to allocate to other uses. Therefore, a sound natural aesthetics is crucial to sound conservation policy and land management.[62]

The examples cited in this chapter—the whale, the tidal basin and the man-made coast—all compare a description of an initial, less thick aesthetic response with a more serious response prescribed by the author's theoretical position. The historical approach to the example of the mountain that I take here will function in much the same way. Much of the work in the previous chapters has been dedicated to describing historical aesthetic responses to the mountain in literature and analysing how they changed. By considering that evidence in the context of the modern environmental aesthetics debate we now move into a more normative mode to ascertain what such a historical account can tell us about how we *should* appreciate nature in a thick, serious account of its aesthetics. My argument, then, turns on the same boundary between description and prescription using the same approach as arguments that have had an important impact on the discipline so far.

vi. α) Theism and Positive Aesthetics

A fundamental part of this thesis' description of the historical aesthetics of the mountain in Early Modern Latin texts has been the idea of God as the designer of the earth. This belief has been a consistent feature of every text considered in the previous chapters: from Conrad Gesner's *summus mundi architectus* to Scheuchzer's *summus conditor,* God is always hailed as the chief designer of the world.[63] This view of the world can have significant implications for the aesthetic perception of nature:

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[61] Carlson distinguishes between what he calls "thick" and "thin" modes of aesthetic appreciation in Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*, 142–146.
[62] J. Baird Callicott, "Leopold's Land Aesthetic," in *Nature, Aesthetics and Environmentalism: From Beauty to Duty*, ed. A. Carlson and S. Lintott (New York, 2008), 106.
[63] C. Gesner, 1541, *Epistola de Montium Admiratione*. J. J. Scheuchzer. *Itinera Alpina* (1723) p. 282 (*Iter Quartum*).

> The theist sees the world as throughout the product of God's design and plan. For example, he may regard a spectacular sunset as having been rigged by God for the human observer's pleasure and appreciation, just as the same observer views paintings in an art gallery as having been composed for his pleasure and appreciation . . . The only difference is that in nature, the Artist is divine, not human.[64]

Since God's knowledge is perfect, his design of the world would also then be perfect and beautiful. This is the theist's defence of a positivist position on the aesthetics of nature. It is the kind of view we find suggested in the prologue to Grünberg's *Disputatio Physica de Montibus* (1684), for example:

> *Magnus est Deus in magnis et maximus in parvis. Parva est musca sed maxima Dei in eius conditura sapientia. Formica, parvum animal, magna Naturae et Divinae Sapientiae miracula continet. Maior mons est et maior Naturae solertia in eius cum structura, tum natura efformanda.*[65]
>
> God is great among large things and the greatest among the small. The mosquito is small but God's wisdom is most great in its composition. The ant is a small animal but it contains the greatest wonders of nature and God's wisdom. The mountain is bigger and nature's skill is greater both in the formation of its structure and in its nature.

A theist defending a positivist position in a "deep and serious" account of the aesthetics of nature would have to contend either: that positive aesthetics only applies to believers or; that ugliness *does* exist in God's design for nature, but for a good reason. The first alternative is simply not a route followed by theists arguing for positivism in the modern aesthetics debate.[66] There is evidence that Early

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[64] N. Potter, "Aesthetic Value in Nature and the Arts," in *What Is Art?* (New York, 1983), 142–3. Potter is cited in Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*, 81. Carslon's section on positive aesthetics and theism provides a very useful overview of the topic and concludes, as I do here, that the positivist approach was neither very productive historically nor is it useful for the development of an aesthetics of nature today.

[65] N. Grünberg (1684), *Orologia i. e. Disputatio Physica de Montibus* (Hildesheim). The *Praeloquium* is on page A^2. Grünberg and his work are discussed in more detail in the chapter *Theologia et Philosophia Naturalis* above in subchapter ix) '*The World Makers', John Woodward and* Dissertationes de Montibus.

[66] Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*, 82 and Potter, "Aesthetic Value in Nature and the Arts". Such a line of thought might be avoided in modern scholarship because it faces the problem of circularity.

Modern thinkers, Scheuchzer in particular, did adopt this position.[67] However, Scheuchzer defended his positive aesthetic view of nature with arguments and observations he had drawn from science. I will return to this theme below.

Arguments based on the idea that ugliness in nature exists as part of God's design for the earth would have to follow a similar line of thought as arguments attempting to solve the so-called Problem of Evil. Fortunately for my purposes here, there is very little support for any of this sort of "aesthetic theodicy".

By contrast, the solution that many Early Modern Latin writers found most appealing was to shift the responsibility for the world's ugliness away from God. This allowed them to remain ostensibly pious while leaving themselves free to express their (often negative) aesthetic judgements about nature. Thomas Burnet, for example, argued that the world had originally been made a perfect egg but that in order to punish mankind, God was forced to destroy his earth. He believed that the evidence of our sins lay in the wreckage of the disfigured natural world around us. For Burnet the mountain was particularly symbolic of the world's fallen state.[68] The same line of thought was followed by Josephus Blancanus, who proposed that the world had originally been created a perfect sphere. God had, however, deformed his creation, which now lay *in statu quodam violento,* for the sake of mankind.[69]

The willingness of thinkers to mould their theories around aesthetic judgements of nature has two important implications for my historical approach: firstly it demonstrates the significance of the issues of aesthetic perception in Early Modern thought about nature—a point I have already argued in the previous chapters. Secondly it means that theorists created space for their aesthetic appraisal of nature outside of theistic positivism, and that consequently we are free to consider their aesthetic judgements as such.

vii) The Historical Approach: The Role of Natural Science in Aesthetic Appreciation of Nature

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[67] For Scheuchzer and his 1723 *Itinera Alpina* see *Theologia et Philosophia Naturalis* subchapters: x) *Scheuchzer's* Itinera Alpina *and the Changed Mountain Aesthetic* and xi) *Scheuchzer's Natural Philosophy*.

[68] For Burnet and his 1681 *Telluris Theoria Sacra* see subchapter viii) *The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy* in *Theologia et Philosophia Naturalis* above.

[69] For Blancanus' *Sphaera Mundi,* 1620, see *Theologia et Philosophia Naturalis* subchapter vi) *A Smooth Primaeval Earth—Josephus Blancanus* above. The phrase *in statu quodam violento* appears in *Sphaera Mundi,* p.82.

With these preliminary methodological concerns aside, I now want to consider the conclusions of this thesis' account of the historical shift in aesthetic attitude towards the mountain in the context of the current environmental aesthetics debate. The chapter *Theologia et Philosophia Naturalis* traced the mountain mentality shift in religious and natural philosophical writing. It concluded with Johann Jakob Scheuchzer and showed that when this Swiss Physician went out into the Alps equipped with the latest natural philosophical ideas—and prepared to see the world through this lens—his resulting aesthetic perception of the mountain was remarkably modern. His *Itinera Alpina* present the reader with a positive and complex aesthetic reaction to the mountain environment which is never found so fully expressed in earlier Latin literature.[70] The effect of Scheuchzer's scientific knowledge on his aesthetic response to the Alpine environment is striking. Taking Scheuchzer as an example, then, I will first show how the historical approach presented here offers support to cognitive positions in the modern natural aesthetics debate, in particular to Allen Carlson's Natural Environmental Model.

This is both the broader and more straightforward of the two arguments I want to make. Indeed, the previous chapter has already argued that natural philosophical enquiry and the aesthetic perception of the nature were intertwined and grew together. And Carlson himself suggests, with reference to Nicolson, that the historical evidence for this relationship might support his model.[71] But despite these allusions to the potential use of historical evidence for understanding the relationship between scientific knowledge and environmental aesthetics, little has yet been made of the direct implications of such an approach: Carlson concentrates his work on bolstering his model to respond to contemporary criticisms, while Nicolson's work was written before the discipline of environmental aesthetics had been revived. Moreover, this study provides fresh evidence from Neo-Latin works which were previously unknown to modern scholarship, let alone studied. Scheuchzer's Latin text demonstrates, in a way that more commonly cited examples do not, the critical link between scientific knowledge and the aesthetic

[70] The yearly travel accounts that make up the *Itinera Alpina* were collected and published all together in 1723 at Leiden. For Scheuchzer and his work see *Theologia et Philosophia Naturalis* subchapters: x) *Scheuchzer's* Itinera Alpina *and the Changed Mountain Aesthetic* and xi) *Scheuchzer's Natural Philosophy*.

[71] Carlson, A., *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*, 85. Carlson provides here a general sketch of Nicolson's thesis in *Mountain Gloom and Mountain Glory* in one paragraph before moving on to nineteenth century science.

appreciation of nature. Given the ample space dedicated to this theme in this study's previous chapter, I will restrict myself here to two particularly illustrative examples.

In the first, Scheuchzer's account describes his party's trip through the Tamina Gorge in the Canton of St. Gallen, Switzerland.[72] The gorge is steep, rocky and enclosed. Scheuchzer's response to these threatening surroundings is initially fearful:

> *. . . saxorum imminentium et sese desuper claudentium a 20 ad 100 et 200 pedes altum horridumque aspectum, horridiorem tanto, ubi per fissuram vel aperturam quandam illabens lumen periculum, in quo versamur, detegit.*[73]

The height of the path the group takes and the gap in the rock below makes up a terrifying scene for Scheuchzer. This does not, however, mean that his response to the natural environment is dominated by the sense of danger and fear he feels in the gorge—quite the contrary. In the very next sentence Scheuchzer finds beauty in the surface of the rocks that make up the sides of the gorge:

> *Iucundam admirationem insuper praebent saxorum undulatae et passim complanatae superficies, Taminnae quondam desuper fluentis et parietes petrosos elavantis manifesta vestigia.*[74]

This is evidence for the complexity of Scheuchzer's aesthetic response to the rocky Alpine landscape through which he is travelling. But more importantly for the environmental aesthetics debate, it demonstrates the significance of scientific knowledge for Scheuchzer's aesthetic reaction to nature. He knows that the river Tamina has both washed these rocks and smoothed their surfaces: *undulatae et passim complanatae superficies.* It is Scheuchzer's knowledge of the effects of erosion and the *manifesta vestigia* that the river has left behind over time that make the scene so pleasing to Scheuchzer. It deepens his understanding of the natural features of

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[72] This episode is introduced in *Theologia et Philosophia Naturalis* above. I will not repeat the translation for the sake of brevity. Today the gorge is a popular tourist destination and is famous for the thermal baths at Bad Pfäfers, where Swiss physician Paracelsus worked during 1535. In the same year he wrote a description of the waters and their properties entitled *Vonn dem Bad Pfeffers in Oberschwytz gelegen Tugenden, Krefften unnd Würckung, Ursprung unnd Herkommen, Regiment und Ordinantz* (Zürich). The full text of the work is available online at http://dx.doi.org/10.3931/e-rara-1540 from the Zentralbibliothek Zürich.

[73] Scheuchzer, *Itinera Alpina* (*Iter Tertium*) 153.

[74] Scheuchzer, *Itinera Alpina* (*Iter Tertium*) 153.

the gorge and thereby deepens his aesthetic experience as well. The information provided by natural philosophy allows Scheuchzer to appreciate beauty in what was initially a forbidding environment.

Unlike Thomas Burnet, whose ambiguous responses to the mountain drove him to see ruin and destruction in the state of the world as a whole alongside its beauty, Scheuchzer's more consistent optimistic reaction to nature offers other examples that help to elucidate the relationship between scientific knowledge and aesthetic perception.[75] This frequently extends beyond the mountain and into other aspects of the natural world. The following account is from the first year of Scheuchzer's journeys through the Alps:

> *Iter nostrum prosecuti pertransivimus Montem Hacken vel Hoggen, et inter ascendendum offendimus* Fagi *resectae truncum imum annosum, prae vetustate in putrilaginem redactum, cuius magna pars nativum suum colorum exuit, nec tamen foetidum, et obsoletum, putredini proprium assumpsit, verum, quod mirum mihi videbatur, et oculis jucundum, viridi pulcherrimo colore fuit perfusa*.[76]
>
> Having continued our journey, we passed over the Hacken- or Hoggenberg and during the ascent we stumbled across the very aged trunk of a beech tree reduced by age to desiccation, of which a large part had lost its original colour. It had not, however, begun to decompose or collapse or anything else characteristic of putrefaction, but was imbued with a most beautiful green colour that astonished me and was pleasing to the eyes.

In this passage, Scheuchzer writes in a noticeably scientific mode. This is signalled right away by the fact that in the original text the word *fagus* is in italics, which is his practice throughout the work when using technical vocabulary to describe natural phenomena or when using medical terminology.[77] Scheuchzer then goes on to describe the processes of rotting that the trunk had undergone before stating his surprise at those to which it had not fallen victim. The singularity of the trunk's

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[75] For Burnet and his 1681 *Telluris Theoria Sacra* see *Theologia et Philosophia Naturalis* subchapter viii) *The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy.*

[76] Scheuchzer, *Itinera Alpina* (*Iter Primum*) 10.

[77] For this use of italics in Scheuchzer to mark out technical vocabulary compare, for example, the disease he calls *colica spasmodica* (*Iter primum*) p.14 during the episode at Engelberg Abbey, or *pharmacia* and *chirugia* six pages later (*Iter primum*), p.20. For geological/-graphical terminology see, in the same book the *rupes glaciales* on p.12, the *catarractes* on p.23 or the *conchae lapideae* on p.28 *inter multa alia.* It should be noted that the 1723 edition of the *Itinera Alpina* also uses italics to signal quotations, proper names, book titles, words in languages other than Latin and simply to give emphasis to words the author considered important more generally.

condition, apparent to Scheuchzer as a physician on account of the decay he would have expected in such an old piece of wood, results in his aesthetic pleasure in the object.

Scheuchzer's knowledge of science opened up the aesthetic properties of nature to him and allowed him to see beauty where few others before him had. In the examples above, the effect of this scientific knowledge on his aesthetic perception of nature is particularly striking because neither the mountain nor rotting logs were traditionally considered worthy objects of aesthetic appraisal in Scheuchzer's time. He captures and distils this progressive aesthetic attitude towards nature—particularly towards the mountain—in his neat Latin style throughout the *Itinera Alpina,* as already outlined above. It is clear, in Scheuchzer's case, that scientific knowledge and the aesthetic appreciation of nature are linked. But this new Latin evidence impacts more specifically on the current environmental aesthetics discourse because it illuminates a point of discussion over the possible strength of the scientific cognitivists' claim.

This point of discussion is most clearly and succinctly outlined in the literature exchanged between Carlson and Budd. Both theorists advocate a broadly cognitive approach to environmental aesthetics.[78] The difference between them comes down to the amount of emphasis each is willing to give to scientific knowledge in particular. Carlson, of course, argues for a 'strong' position on the importance of scientific information—for him science is the most significant source of information appropriate to the aesthetic appreciation of nature. Budd's commitment to cognitivism, on the other hand, ends at perceiving nature *as nature.* The distinction between the two stances has been usefully illustrated by another scholar, Zangwill, who clarifies the two types of commitment to cognitivism as follows:

> According to the strong version, we must subsume things under either the correct scientific or the correct common sense natural categories. We must appreciate a natural thing as the *particular kind* of natural thing it is.

[78] The positions of these philosophers are sketched in the *Cognitive Positions* section above nn.18-22. Budd's 'weaker' and 'freer' approach to aesthetic cognitivism is presented in: Budd, "The Aesthetics of Nature" 2000; Budd, *The Aesthetic Appreciation of Nature* 2002. For Carlson see *The Natural Environmental Model* above *passim.* The points of discussion are laid out by Carlson in "Budd and Brady on the Aesthetics of Nature", a critical review of both Budd's and Brady's theories.

> But all the weak *qua* thesis holds is that one need only appreciate a natural thing as *a* natural thing.[79]

Budd acknowledges that the *qua* thesis he advocates could hold true for either a strong position on scientific cognitivism or equally a weak one.[80] He recognises that Carlson's argument can make it appear that "the fuller the understanding, the deeper the appreciation."[81] But he rejects any restriction of his thesis to a particular type of knowledge in favour of what he feels is the "freedom" required in an aesthetics of nature compared to the aesthetics of art.[82]

Nonetheless, Budd allows that scientific knowledge can "enhance"—to use his own word—the aesthetic appreciation of nature.[83] Consider this example from page 21 of his book:

> If when looking at a cloud you identify its type as a cumulo-nimbus, your aesthetic experience is not thereby transformed. But if, in virtue of additional knowledge, you see the anvil top and ragged base of a cumulo-nimbus as a *thunder cloud*, your impression of the cloud might change. For you might now have a sense of *power* in the cloud and see it as shaped by powerful forces at work in it; and this sense of power will inform your experience and change the nature of your aesthetic response.[84]

Carlson uses Budd's acknowledgement of science's potential to enhance aesthetic appreciation of nature to show that the natural environmental model not only suffices the *qua* thesis, but also that the strong version based on science provides the most satisfactory account of an adequate aesthetics of nature. A closer reading of the cumulo-nimbus example above, however, alongside Scheuchzer's descriptions of his reaction to mountain scenery—or a rotting beech tree—reveal another, historical argument in support of Carlson's theory: in the case of the *truncus annosus*

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[79] Zangwill, "Formal Natural Beauty," 210. The italics are Zangwill's own. This passage is cited in Carlson, A., "Budd and Brady on the Aesthetics of Nature," 108, as part of Carlon's review of Budd 2002.

[80] Budd, *The Aesthetic Appreciation of Nature*, 121: "It might appear to follow . . . that any instance of aesthetic appreciation of nature as nature that is not superficial must be informed by an understanding of the natural processes that have brought about and are at work in the object of appreciation".

[81] Budd, *The Aesthetic Appreciation of Nature*, 121.

[82] For Budd on his commitment to "freedom" in an appropriate aesthetics of nature: Budd, *The Aesthetic Appreciation of Nature*, 90–2.

[83] Budd uses the word "enhance" to describe the effect of scientific knowledge on aesthetic experience a t *The Aesthetic Appreciation of Nature*, 136.

[84] Budd, *The Aesthetic Appreciation of Nature*, 136 21. The italics are the author's own. This passage is also cited in Carlson, A., "Budd and Brady on the Aesthetics of Nature," 109.

Scheuchzer's scientific knowledge as a physician lead him to recognise the unusual appearance of the tree stump. It's green colour and hardiness in the face of insidious rot ultimately made it an object of beauty to him: *oculis iucundum*. In the example of the rocky mountainscape at the Taminaschlucht the case can be put even more strongly. It was *only* the *undulatae et passim complanatae superficies saxorum* that gave Scheuchzer any aesthetic pleasure and prevented him from being completely terrified of the scene. The smooth, wavy surface of the rocks was only of interest to Scheuchzer the naturalist as they were signs of the area's geological history; clear signs that the Tamina had once flowed over those rocks.

Scheuchzer's Latin text, along with the many others discussed in this study, is especially significant for the modern environmental aesthetics debate because it stands on the tipping point of a major aesthetic change. Natural philosophical information was not only a large factor in Scheuchzer's forward-looking aesthetic attitude towards the mountain, it was—as this study has shown—partly responsible for that mentality shift. Having identified the machinery that stood at the core of the historical aesthetic change and produced our modern views of nature, it is possible to respond to Budd's weaker *qua* theory by proposing that any description of an aesthetics of nature which does not account for the essential role that scientific knowledge and its common sense analogues had—and continue to have—in our perception of the natural environment can hardly be called adequate.

viii) The Historical Approach: Landscape and the Aesthetic Appreciation of Nature

The historical evidence that this study has uncovered adds support, then, to the environmental model's strong investment in scientific knowledge. The historical approach does not offer so much support, however, for another part of Carlson's theory: his position on landscape. This issue has frequently been the topic of debate in the literature on the aesthetics of nature.[85] The idea of landscape has particularly

[85] For pieces which specifically tackle the issue of landscape appreciation in nature, frequently considered a type of formalism, see: Stecker, R., "The Correct and the Appropriate in the Appreciation of Nature"; Zangwill, "Formal Natural Beauty"; Crawford, D., "Scenery and the Aesthetics of Nature"; Parsons, G., "Moderate Formalism As a Theory of the Aesthetic," *JAE* 38, **3** (2004): 19–35; T. Leddy, "A Defense of Arts-Based Appreciation of Nature," *EE* 27 (2005): 299–315; N. Zangwill, "In Defence of Extreme Formalism about Inorganic Nature: Reply to Parsons," *BJA* 45 (2005): 185–91. The most recent statement of Carlson's position on landscape and formalism in the aesthetics of nature can be found in: Carlson, "Contemporary Environmental Aesthetics and

attracted attention in the modern debate because of its connection to the picturesque. Many contemporary scholars consider that the picturesque tradition—a way of viewing which objectifies nature and subjects it to aesthetic judgement on abstract and inappropriate formal qualities—still informs the shallower, everyday way of viewing nature which their theories attempt to correct. The modern offspring of the picturesque tradition has been dubbed the 'postcardesque' by Donald Crawford.[86]

For Carlson, landscape appreciation has no place in an adequate aesthetics of nature. He cites at length from early environmental philosophers and their later exponents to highlight his concerns over the more formal and traditional arts based appreciation of nature. From the famous American ecologist and environmentalist Aldo Leopold's *A Sand County Almanac* (1949), Carlson selects this expressive excerpt:

> The taste for country displays the same diversity in aesthetic competence among individuals as the taste for opera, or oils. There are those who are willing to be herded through scenic places; who find mountains grand if they be proper mountains with waterfalls, cliffs and lakes. To such the Kansas plains are tedious.[87]

From the leading contemporary proponent of Leopold's "land ethic", American environmental philosopher J. Baird Callicott, Carlson chooses the following words to underline the problems with landscape appreciation:

> . . . we continue to admire and preserve primarily 'landscapes', 'scenery', and 'views' according to essentially eighteenth century standards of taste inherited from Gilpin, Price and their contemporaries. Our tastes in natural beauty . . . remain fixed on visual and formal properties. Western appreciation of natural beauty is . . . derived from art. The prevailing natural aesthetic, therefore, is not autonomous: it does not flow naturally

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the Requirements of Environmentalism". An account of the popularisation of landscape appreciation is given in: Rees, R., "The Scenery Cult: Changing Landscape Tastes over Three Centuries."

[86] For the picturesque and its modern descendant see Crawford, "Scenery and the Aesthetics of Nature" in subchapter ii. α) *Historical Background*.

[87] A. Leopold, *A Sand County Almanac: And Sketches Here and There* (Oxford, 1949), 179–180. Cited in Carlson "Contemporary Environmental Aesthetics and the Requirements of Environmentalism" 294.

> from nature itself; it is not directly oriented to nature on nature's own terms . . . It is superficial and narcissistic. In a word, it is trivial.[88]

As Callicott's damning sentences make clear, the central problem with scenery or landscape appreciation is seen to be that it fails to appreciate nature as nature. The contention is that appreciating beauty in nature on the basis of picturesque landscapes or scenes means appreciating nature as art. Here we touch again the issues raised in the debate over Budd's *qua* thesis above, where Carlson maintained—in a strong version of the *qua* argument—that scientific information is necessary for appropriately appreciating nature *as it is*.[89] I will use the historical approach to show here, however, that appreciating nature in the form of a landscape does not necessarily constitute a category error—*i.e.* appreciating landscapes and views does not rule out appreciating nature as nature—and that scientific cognitivism and the idea of landscape are not essentially opposed.

Carlson's criticism of formal and scenery appreciation takes shape over the course of three central articles: in 1979 Carlson considered the problems of drawing significant aesthetic information from a formalist appraisal of nature; in 2004 he defended and adjusted—in collaboration with Glenn Parsons—his earlier points against the response it stimulated labelled as 'new formalism'; in 2010 he itemised the shortcomings he finds in the products of this traditional aesthetics.[90] His analysis in 2010 concludes by drawing up what he sees as the five failings of the traditional approach: anthropocentrism, scenery-obsession, superficiality and triviality, subjectivity and moral vacuity. I want to address the points that Carlson raises in his earlier critiques and then consider a historical case of landscape appreciation to question the validity of his 'five failings' and to argue for the significance of scenery and landscape appreciation for an adequate account of environmental aesthetics.

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[88] Callicott, "Leopold's Land Aesthetic" 108-109. Cited in Carlson "Contemporary Environmental Aesthetics and the Requirements of Environmentalism" 296. The contractions of Callicott's original are Carlson's. For Gilpin and Price's standards of taste see subchapter: ii. α) *Historical Background*. above.

[89] See subchapter: vii) *The Historical Approach: The Role of Natural Science in Aesthetic Appreciation of Nature* above with particular reference to: Zangwill, "Formal Natural Beauty," and Budd, "The Aesthetics of Nature" 2000.

[90] Carlson, A., "Formal Qualities in the Natural Environment" 1979; A. Carlson and G. Parsons, "New Formalism and the Aesthetic Appreciation of Nature," *The Journal of Aesthetics and Art Criticism* 62, no. 4 (2004): 363–76; Carlson, "Contemporary Environmental Aesthetics and the Requirements of Environmentalism" 2010. The response from 'new' or 'moderate' formalism was spearheaded by Zangwill, "Formal Natural Beauty" 2001.

viii. α) Carlson's Anti-formalism and New Formalism

In his 1979 article "Formal Qualities in the Natural Environment" Carlson's arguments against what he calls the 'landscape cult' or 'scenery cult' are relatively straightforward. First he makes the point that viewing nature as if it were a landscape painting fails to appreciate nature for what it is:

> The point is that the mode of appreciation of the landscape cult requires the appreciation of the environment not as what it is and with the qualities it has, but as something it is not and with qualities it does not have.[91]

Secondly he brings the charge that framing the environment as one frames a work of art or a view constitutes an aesthetic error:

> In short one cannot be *in* the environment which one appreciates and frame *that* environment; if one appreciates the environment by being in it, it is not a framed environment which one appreciates. Consequently, framing itself must be seen as an inappropriate way of attempting to appreciate and evaluate the natural environment aesthetically.[92]

Carlson's final argument is that nature, once perceived as nature—not as a painting—and once removed from the frames to which the 'scenery cult' attempts to constrain it, cannot be appreciated in terms of formal qualities:

> The natural environment cannot be appreciated in terms of formal beauty, that is, the beauty of formal qualities; rather, it must be appreciated and valued in terms of its other aesthetic dimensions—its various nonformal aesthetic qualities . . . [93]

The work of overturning these earlier criticisms of scenery's place in an adequate aesthetics of nature has already been undertaken by several theorists in the field.[94]

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[91] Carlson, A., "Formal Qualities in the Natural Environment," 106.
[92] Carlson, A., "Formal Qualities in the Natural Environment," 110. Italics Carlson's own.
[93] Carlson, A., "Formal Qualities in the Natural Environment," 111.
[94] For Carlson's problematic slippage between landscape appreciation conceived as appreciation of nature as a landscape painting or as a 'real' scene see: Budd, *The Aesthetic Appreciation of Nature*, 133–4. For the plausibility of framing natural objects see: P. Matthews, "Aesthetic Appreciation of Art and Nature," *BJA* 41 (2001): 395–410. For a defence of view, scenery and distance in a functioning

The resulting 'new formalist' position was addressed afresh by Carlson in his article of 2004, 'New Formalism and the Aesthetic Appreciation of Nature'. Now the question becomes: "Do formal aesthetic properties, as outlined by the new formalists, play a significant role in our aesthetic appreciation of nature?"[95]

In order to establish what a significant role in the aesthetic appreciation of nature might be, Carlson and Parsons devise the following necessary condition for determining the significance of an aesthetic judgement:

> If the judgement of the form "x is P" is a significant judgement about x, then x having P is a matter of x having properties that are explanatorily powerful regarding x.[96]

The authors go onto unpack the phrase "explanatorily powerful":

> We take a property P as being explanatorily powerful regarding x if P is an essential part of a good explanation for a large number of states of affairs regarding x, its parts, and/or events involving x.[97]

Finally, Carlson and Parson specify the level of connection required for P to be explanatorily powerful regarding x:

> In essence, this means that the general criterion allows that the judgement that x is P may be significant even if P itself is not highly explanatory, as long as P metaphysically depends on a property or a set of properties that is highly explanatory.[98]

Conveniently for my argument here, the example that the authors select is that of the formal beauty of a mountain range. They imagine two sets of peaks, one in front of the other. The range in the foreground consists of a smaller group of mountains whose peaks correspond to the similarly shaped set of larger mountains behind them (see Figure 7). This arrangement produces a "repetitive pattern":

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aesthetics of nature see: I. Newman, "Reflections on Allen Carlson's 'Aesthetics and the Environment,'" *CAJ/RCE* 6 (2001). For examples of 'frameless' formalism see: Zangwill, "Formal Natural Beauty."

[95] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 369.
[96] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 369.
[97] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 369.
[98] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 370.

> . . . and the overall range might well be judged, in consequence, to have a formal aesthetic property of harmony or, more precisely, of possessing a harmonious or rhythmical pattern.[99]

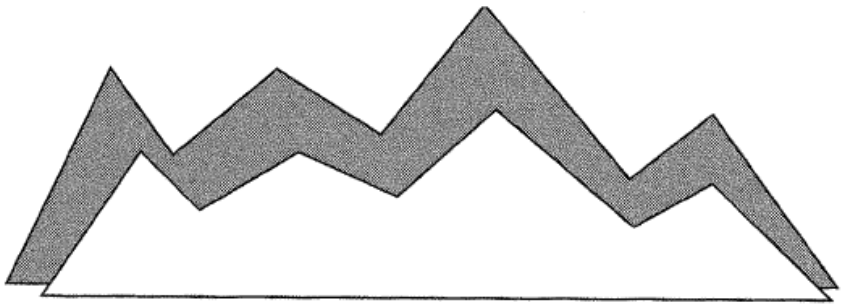

Fig. 7 *Formal beauty in a mountain range,* Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 2004.[100]

The argument concludes by attempting to show that these judgements—in the form x is P: "the mountains are harmonious" or "the mountains possess a harmonious or rhythmical pattern"—are insignificant. This is because—according to Carlson and Parsons' argument—the formal aesthetic property of harmony does not explain much about the mountains. They argue that the formal properties are a product of the shapes, colours and spatiotemporal arrangement of the surfaces of the mountains, but not of the ranges themselves. In their words:

> The spatiotemporal pattern of the peaks, for instance, will explain nothing about the mountains.[101]

The harmonious pattern of the peaks may explain the appearance of shadows on the valley floor, they claim, but this is not an explanation of anything about the mountains.

The historical evidence does not support this position. Indeed, it offers strong arguments against Carlson and Parson's anti-formalist stance. I now want to introduce a historical case which demonstrates the significance of the formal scenic properties of the mountain landscape.

ix) Steno and Leonardo: the Tuscan Hills: Nicolaus Steno's *Prodromus*

[99] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 370.
[100] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 370. This is the image that Carlson and Parsons provide in their own article.
[101] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 371.

Carlson and Parson's claim more generally stated in their own words is that: "that aesthetic property of having a harmonious pattern fails to explain much about the mountains".[102] On this basis they refute the significance of formal properties for aesthetic judgements about nature. In 1669, however, it was just such formal properties and, indeed, harmonious patterns, that brought Danish churchman and scientist Nicolas Stenonis (Niels Stensen) to make one of the most important geological discoveries in the Early Modern Period.[103] In his *De Solido Intra Solidum Naturaliter Contento Dissertationis Prodromus*—commonly referred to as simply the *Prodromus*—Steno states the three principles of relative age dating that are still current today and thereby provided science with the tools to analyse geological strata.[104]

Steno was born in 1638 in Copenhagen. He was educated in the university of his home town and then in Amsterdam before moving to Leiden where he worked as an anatomist and physician from 1660 to 1664. Upon the death of his parents in 1664 he briefly returned to Demark before making his way to Paris where he continued his anatomical work. A year later, however, in 1665, Steno was in Italy. He first travelled to Pisa, then Rome and finally Florence where he settled for some years as anatomist at the Santa Maria Nuova hospital at the appointment of the Grand Duke Ferdinand II.[105] It was here in Tuscany that he was able to carry out his research for the *Prodromus* which was dedicated to Ferdinand.

The work was originally planned as an introduction to principles upon which Steno would elaborate in a larger work on geology. This later work never appeared. For this reason its precursor carries the title *Prodromus*. Steno also originally intended to write the work in Italian:

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[102] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 370.

[103] The English form of Stenonis' name "Steno" presumably comes from a misanalysis of the patronymic form "Stenonis" as a real genitive. I do not wish here to oppose myself to years of common usage so I will use the usual English form of Steno's name in what follows.

[104] Gary Rosenberg, "An Artistic Perspective On The Continuity Of Space And The Origin Of Modern Geologic Thought," *ESH* 20, **2** (2001): 127. The three principles of relative age dating for strata are: superposition, original horizontality and lateral continuity.

[105] For the life of Steno see: G. Winter, *The Prodromus of Nicolaus Steno's Dissertation: Concerning a Solid Body Enclosed by Progress of Nature within a Solid–an English Version with Introduction and Explanatory Notes* (London, 1916), 175–187; H. Kermit, "The Life of Niels Stensen," in *Niccolò Stenone: Anatomista, Geologo, Vescovo: atti del seminario organizzato da Universitetsbiblioteket I Tromsø E l'Accademia de Danimarca, Lunedì 23 Ottobre 2000*, ed. K. Ascani, H. Kermit, and G. Skytte (Rome, 2002), 17–22; H. Kermit, *Niels Stensen: The Scientist Who Was Beatified* (First Published as *Niels Stensen: Naturforsker Og Helgen*), trans. M. Drake (Eastbourne) (Original: Tromsø), 2003, 4–79.

> *Et haec quidem Italico idomate extendere ceperam, tum quod tibi placere intelligerem, tum quo pateret illustri Academiae, quae suorum me numero adscripsit, me ut minime dignum tali honore, ita maxime avidum esse testandi conatus, quibus in aliquam Etruscae linguae cognitionem pervenire allaboro.*[106]
>
> I had in fact started to set these things out in Italian, both because I thought this would please you and so that it might be clear to the illustrious Academy—which has just added me to their number—that just as I am the least worthy of such an honour, I am also the most eager to make evident the efforts by which I am striving to come to some knowledge of the Tuscan language.

The Latin quote above, however, shows that this was another project that came to nothing.

Steno's *Prodromus* was, as his title makes clear, working towards understanding how solids appeared 'naturally' inside other solids. This project covered cases that a modern reader would consider almost absolutely unrelated: the organs within the body, a foetus within the womb, fossils within rocks, and layers of rock inside mountains. His interest in this type of work had begun when he undertook anatomical studies on the head of a shark in 1667. He noticed that the teeth of the shark were remarkably similar to small, triangular stones found inside larger rocks that contemporary science had named *glossopetrae.* He argued that these 'tongue stones' were in fact shark's teeth and that they had arrived 'inside' other stones by a process of fossilization. He published his findings in a work entitled *Elementorum myologiae specimen, seu Musculi descriptio geometrica, cui accedunt canis carchariae dissectum caput et dissectus piscis ex canum genere . . .* in 1667.[107]

In what follows I want to concentrate on the sections of the *Prodromus* which outline Steno's understanding of the earth's strata, his ideas on the origins of mountains and finally his application of these ideas to the case of the hills of Tuscany. These passages, I will argue, demonstrate that the formal properties of the Tuscan landscape—specifically the visible lines of the earth's strata and, moreover,

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[106] N. Stenonis, 1669, *De Solido intra Solidum naturaliter contento Dissertationis Prodromus ad Serenissimum Ferdinandum II Magnum Etruriae Ducem,* (Florence): 6.

[107] N. Stenonis, 1667, *Elementorum myologiae specimen, seu Musculi descriptio geometrica, cui accedunt canis carchariae dissectum caput et dissectus piscis ex canum genere...*, (Florence). Steno was building in this essay on the conclusions of the earlier naturalist Colonna whose 1616 *De glossopetris dissertatio* had argued along the same lines. Steno makes reference to his work on the shark's teeth as the stimulus for his interest in solids within solids in the *Prodromus* on p. 2.

the *harmonious pattern* between them that Steno observed—were the key to his geological discovery.

Steno's account of the *strata terrae* begins on page 26 of the *Prodromus.* He establishes that strata are formed from the sediment of a liquid: *Ad sedimenta fluidi terrae strata pertinent.*[108] This is a crucial observation because it allows Steno to conclude that the particles of sediment that make up the strata settled to the bottom of the fluid according to their weight: *Fiunt autem sedimenta, dum contenta in fluido proprio pondere ad fundum delabantur.*[109] It is then possible for him to characterise the different strata according to their composition in order to determine their origins. Salt deposits and the bodies of marine animals, for example, indicate that the sea had played a part in forming a given stratum, while burnt timber or pumice would indicate that a fire had once occurred in the area.[110]

From our privileged modern point of view these concepts might appear somewhat elementary, but laying down these fundamentals provided Steno with the tools to formulate his more progressive ideas. From his knowledge about the composition of the strata Steno was able to draw conclusions about their relative positions. In four succinct points he establishes that: 1) at the point of a stratum forming, either a solid or a liquid heavier than the sediment forming the new stratum must have been below it; 2) when a stratum above was being formed, those below had the consistency of a solid; 3) when a stratum was being formed, the fluid either covered the earth's surface continuously or solid objects on either side dammed it into one area; 4) when the lowest stratum was formed, all the material above it was fluid and therefore when the lowest stratum was formed no strata above it existed.[111]

With his ideas on the layering of strata elaborated, Steno is able to propose two processes by which the original arrangement of the strata could be disturbed: *Primus modus est stratorum violenta in altum excussio . . . Posterior modus est, spontaneus stratorum superiorum delapsus.*[112] "The first way is the violent thrusting up of the strata . . . The second way is the sudden collapse of the upper strata." These processes

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[108] Stenonis, *Prodromus*, 26.
[109] Stenonis, *Prodromus*, 26.
[110] Steno lists eight varieties of strata along with the elements that might make them up on pp. 28-29 of the *Prodromus*. The examples of the sea and the burnt remains are varieties five and seven respectively.
[111] Stenonis, *Prodromus,* 29-30. These basic principles still form the basis of modern stratigraphy. The numbering of the points is consistent with Steno's own numbering of his propositions.
[112] Stenonis, *Prodromus,* 31.

give rise to the mountains. Steno collects his evidence for the involvement of strata shifts in the creation of mountains into seven points. The first six of these are central to understanding the role of the landscape's formal properties in providing information about the processes that formed it:

> *Quod mutatus stratorum situs praecipua montium origo sit, inde patet, quod in qualibet congerie montium conspiciantur:*
> 1. *Ingentia plana in quorundam vertice.*
> 2. *Multa strata horizonti parallela.*
> 3. *Ab eorumdem lateribus strata varia varie ad horizontem inclinata*
> 4. *In oppositis collium lateribus ruptorum stratorum facies, materiae et figurae omnimodam convenientiam demonstrantes.*
> 5. *Nudi stratorum limbi.*
> 6. *Ad radices eiusdem congeriei disruptorum stratorum fragmenta, partim in colles congesta, partim per vicinos agros dispersa*.[113]
>
> That the change in the position of the strata is the leading cause of the mountains is clear from the fact that in any group of mountains there may be seen:
> 1. Huge plane surfaces on the peaks of some mountains
> 2. Many strata parallel to the horizon
> 3. Various strata on the sides of mountains inclined at various angles to the horizon
> 4. Surfaces of broken strata on the sides of opposite hills, showing absolute agreement in form and material.
> 5. Naked edges of strata.
> 6. Fragments of broken strata at the feet of the same range, partly gathered into hills and partly scattered over the neighbouring fields.

In his theoretical account, then, Steno shows that formal properties of a mountain landscape—the visible lines of the strata, the shapes of the peaks of the mountains and their slopes—provide information about their formation. Critically for refuting the anti-formalist arguments of Carlson and Parsons above, it is the agreement of strata in material *and form* across a mountain landscape—in Steno's point four—that provide this information. The *Prodromus*, however, goes further than this hypothetical description and analyses a real mountainous landscape—the Tuscan

[113] Stenonis, *Prodromus,* 32-33. Steno's seventh point runs: *Vel in ipsis montibus saxeis, vel in eorumdem vicinia, evidentissima ignis subterranei indicia; quemadmodum, circa colles e stratis terreis compositos, aquae frequentes reperiuntur.* This point provides important support to Steno's earlier claims about the relative positions of the strata at their formation, but it does not directly impinge on my argument here about the information contained in the patterned, formal properties of the landscape.

Hills—in terms of the information that can be gathered from the formal arrangement of its strata.

Steno's account of the landscape of the Tuscan Hills largely consists of fitting his natural historical observations with the biblical account of the earth's history. This project he shared with many of his contemporary natural philosophers, some of whom were presented in *Theologia et Philosophia Naturalis* above.[114] The distinctive feature of Steno's explanation of the natural history of the Tuscan landscape was his innovative method of analysing the landscape and telling its story in terms of the arrangement of its strata. This he did with reference to a set of diagrams which were appended to the work. The diagrams (figure 8) set out the story of the Tuscan Hills in schematic form which, not unlike Carlson and Parsons' diagram above (figure 7), emphasise the formal properties of the mountain landscape using lines to represent the harmonious arrangement of the strata:

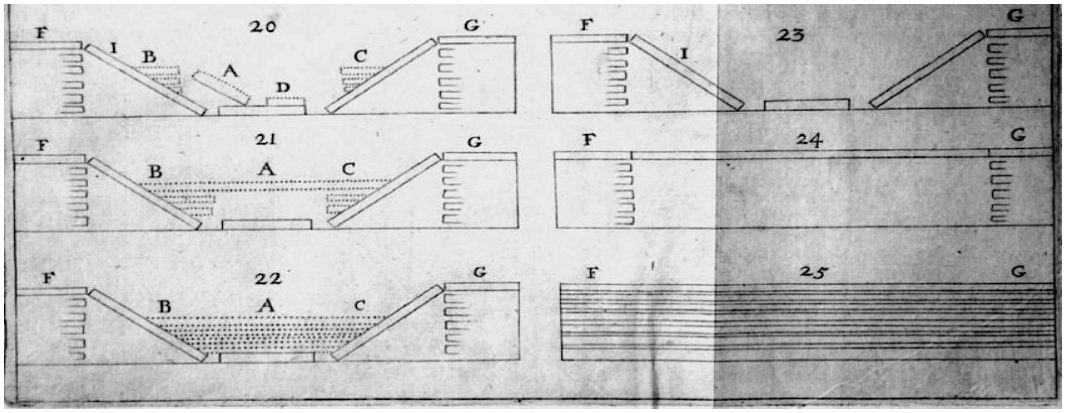

Fig 8, Steno's schematic representation of the processes that formed the Tuscan Hills (1669).[115]

Steno underlines the importance of the formal, surface properties of the landscape for his natural history of the Tuscan Hills in the opening paragraph to his explanation:

[114] The key authors involved in this work were Thomas Burnet, for whom see: *Theologia et Philosophia Naturalis,* subchapter viii) *The 'Burnet Controversy' and Mountain Aesthetics in Natural Philosophy;* Josephus Blancanus: *Theologia et Philosophia Naturalis,* subchapter vi) *A Smooth Primaeval Earth—Josephus Blancanus*; Bernhard Varenius: *Theologia et Philosophia Naturalis,* subchapter v) *Biblical Positions—Mountains in Genesis and Berhardus Varenius* and Johann Jakob Scheuchzer: *Theologia et Philosophia Naturalis,* subchapters x) *Scheuchzer's Itinera Alpina and the Changed Mountain Aesthetic* and xi*) Scheuchzer's Natural Philosophy*.

[115] Stenonis, 1669, *Prodromus*, Plate XI, figures 20–25.

> *Quomodo praesens alicuius rei status statum praeteritum eiusdem rei detegit, prae caeteris suo id exemplo Etruria evidenter declarat, in cuius hodierna facie obviae inaequalitates manifesta diversarum mutationum indicia in se continent, quas ordine inverso recensebo a novissima ad primam regrediendo.*[116]
>
> The way in which the present state of any thing reveals its past condition is clearly evident in Tuscany above other places. The variations in its surface today hold within themselves clear signs of diverse changes. I will review these changes in reverse order, going from the most recent to the first.

It is the *facies*, "the form", "surface" or "face", of the Tuscan rocks which holds the key to unravelling the geological history of the area. This is also emphasised by Steno's decision to give his explanation 'backwards', beginning with the present state of the area (figure 1: 20) and working towards its initial form (figure 1: 25).

Steno's description of the processes that formed Tuscan Hills on pages 67-68 is recognisable from our modern understanding of the processes of strata formation, erosion and collapse. This is not surprising: his account still forms the basis of our comprehension of these geological forces.[117] In the following pages 69-76 of the *Prodromus* Steno goes on to explain the history of the area in accordance with the biblical account of the earth's natural history. Finally, in the appendix to the work he provides another briefer explanation of his figures 20-25 (here figure 2 above), this time beginning with the older forms and ending with the present appearance of the landscape: 25 represents a cross-section of Tuscany at the time when the all the strata were whole; 24 shows the effects of erosion by underground waters and heat, at which point the uppermost stratum is still intact. With nothing to support it, this top stratum collapses in 23 and forms a valley with mountains on either side. 22 shows new strata being formed by the sea—in Steno's account this is when Noah's Flood takes place.[118] The sandy strata left behind—indicated in the schema by dotted lines—are eroded in turn by the forces of water and heat from below in figure 21. Finally in figure 20, those sandy strata collapse and the mixed, mountainous landscape of the Tuscan Hills is the result.

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[116] Stenonis, *Prodromus*, 67.
[117] G. D. Rosenberg, "The Measure of Man and Landscape in the Renaissance and Scientific Revolution," *GSAMem* 203 (2009): 13.
[118] Rosenberg, "The Measure of Man and Landscape in the Renaissance and Scientific Revolution," 71.

The arrangement of the lines formed by the strata across the Tuscan Hills allowed Steno to formulate the geological principles for which he is still famous today. The agreement of the strata across the landscape—*in oppositis collium lateribus ruptorum stratorum facies, materiae et figurae omnimodam convenientiam demonstrantes*—along with other patterns in the scene that Steno observed were essential to his discovery. In the case of the Tuscan Hills, the formal properties of the natural environment and specifically the harmonious arrangement of its various features provided Steno with crucial information about its geology. This historical example is instructive in the case of Carlson and Parsons' "harmoniously arranged" mountain range (figure 1). They argue that: "the spatiotemporal arrangement of the peaks, for instance, will explain nothing about the mountains".[119] I propose that the formal arrangement of Carlson and Parsons' peaks does, in fact, provide important information about their geology. The very formal property that Carlon and Parsons pick out in their imaginary example—a "harmonious or rhythmical pattern"—demonstrates the geological relationship of the two sets of peaks. One would imagine that the same geological forces that formed the range in the foreground also formed the range behind on the basis of their harmonious arrangement. This could indicate a related geological profile, for example, just as it did in the case of the Tuscan Hills for Steno over 300 years ago.

Carlson and Parsons' requirement for aesthetic significance (see note 94 above) is that a property must be "explanatorily powerful" with regard to the object that presents it. The formal properties of the strata in the Tuscany—namely the harmonious arrangement of the lines they form across the landscape—were explanatorily powerful with regard to the history of the Tuscan Hills: they gave Steno the key to understanding their geology. The case is the same for the formal beauty in figure 7. The harmonious pattern of the peaks in the two sets of mountains are explanatorily powerful because they provide information about the geological relationship between the mountains.

ix. α) Leonardo's *View of the Hills of Tuscany*

The example of the Tuscan Hills in Steno's *Prodromus*, then, demonstrates the explanatory power of nature's formal properties. However, the same example is

[119] Carlson and Parsons, "New Formalism and the Aesthetic Appreciation of Nature," 370.

revealing for another issue that has been raised in the debate over formalism in the modern literature: the idea of landscape. Non-formalist thinkers have brought the charge that the framing of a natural environment required for a landscape constitutes an artificial, superficial and anthropocentric separation of one part of the environment from the whole.[120] By returning to the example of the Tuscan Hills, this time by way of Leonardo da Vinci's 1473 drawing of the area, I will argue that the concept of "landscape"—a view of part of the earth's surface with significance above the sum of its parts—has and deserves a place in an adequate aesthetics of nature.

In order to address this point, it is important to first establish what sort of landscape is being dealt with here. Carlson's rejection of landscape slips between two accounts of the idea. This slippage has already been identified by Malcolm Budd:[121] Carlson attacks the 'landscape model', on the one hand, where nature is viewed as if it were a landscape painting. The criticism here, as already observed, is that nature is not a picture and therefore judging it as such yields false results.[122] The excesses of this type of environmental aesthetic based on landscape painting reached their height in the eighteenth century picturesque tradition with the obsession for 'scenery' and the use of framing devices such as the Claude glass, for example. This led to the eventual reduction of nature—in the popular mind—to a calendar scene or a postcard picture.[123] The other type of landscape aesthetic that Carlson confronts is what might be called the appreciation of 'real' views or prospects. According to his argument, conceptually framing any one "view" of the landscape comprises an error in the case of the aesthetic appreciation of nature. This is because, to follow Carlson's reasoning, a viewer cannot at once frame a view and be fully engaged in the natural environment he or she is appreciating.[124] He posits that even if a viewer is not judging a view as if it were a landscape painting, the very act of conceiving of a 'view' or 'landscape' which is separate, or framed off

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[120] For a summary of the criticisms leveled at formalist accounts of environmental aesthetics including those informed by ideas of landscape see subchapter viii. α) *Carlson's Anti-formalism and New Formalism.* For criticisms of landscape specifically see n. 90.
[121] Budd, *The Aesthetic Appreciation of Nature*, 134.
[122] Carlson, A., "Formal Qualities in the Natural Environment," 106. See above subchapter viii. α) *Carlson's Anti-formalism and New Formalism.*
[123] Carlson, "Contemporary Environmental Aesthetics and the Requirements of Environmentalism," 291; Carlson, A., "Appreciation and the Natural Environment," 106–109. For the Claude glass—an interesting piece of apparatus for eighteenth and nineteenth century tourists which used a darkened mirror to give the viewer, with his back to the view, a more 'picturesque' image of the landscape—see in particular "Appreciation and the Natural Environment", 108.
[124] Carlson, A., "Appreciation and the Natural Environment," 110.

from the rest of nature is inappropriate. Carlson's slippage occurs when the extravagances of the picturesque tradition are confused with the aesthetic response of a person who looks at a part of the earth's surface and considers that section a meaningful whole. The arguments that follow address Carlson's rejection of the second type of 'real' landscape appreciation.

The *View of the Hills of Tuscany* or *Arno Landscape* (figure 9) is the first of Leonardo da Vinci's works which can be dated with certainty.[125] His signature at the bottom left of the sketch and the date in the top right-hand corner written in his characteristic mirror hand confirm the ascription to Leonardo and the dating.[126] The drawing represents a view of the Tuscan Hills. It clearly shows the distinctive strata visible in the rock faces of Tuscany in the fore- and middle ground, while in the background the view stretches out to reveal a river valley, plains and castle with rolling hills in the distance. The pen and ink drawing has a strong claim to being the very first pure, independent landscape represented in western art.[127]

[125] The drawing is catalogued in A. E. Popham, *The Drawings of Leonardo Da Vinci: With an Introdution and Notes* (London, 1946). There appears on plate 253 and is described as: LANDSCAPE, 19 x 28.5cm. Pen and Ink. Florence, Uffizi. In Popham's catalogue, the drawing is number 1. The work appears in the other standard catalogues of Leonardo's works as: B.B. (Berhard Berenson, 1938) 1017; Bodmer (1931) p.111; Commissione Viciana 2. A short analysis of the work in the context of Leonardo's other drawings appears in Popham, 160–161.

[126] The dating statement reads: *Dì de Sta Maria della Neve / A dì 5 daghosto 1473.*

[127] M. Kemp, *Leonardo Da Vinci: The Marvellous Works of Nature and Man* (Oxford: Oxford University Press, 2006) states the claim unequivocally: "It is simply the first dated landscape study in the history of Western Art;" p.30. The question over the drawing's relation to a real view is treated in: A. R. Turner, *Inventing Leonardo: The Anatomy of a Legend* (London, 1995), 14; K. Clark, *Leonardo Da Vinci* (Harmondsworth, 1988), 51. For the connection between Leonardo's drawing and Steno's *Prodromus* see: Gary Rosenberg, "An Artistic Perspective On The Continuity Of Space And The Origin Of Modern Geologic Thought," *ESH* 20, **2** (2001): 127–55; Gary D. Rosenberg, "The Measure of Man and Landscape in the Renaissance and Scientific Revolution," *GSAMem* 203 (2009): 13–40.

Fig. 9, Leonardo da Vinci, *View of the Hills of Tuscany* (1473) Uffizi Florence

The work demonstrates a masterful control of the techniques of perspective. Furthermore, the formal features of the landscape help to reinforce the structural composition of the picture. The lines that form the strata in the cliff face in the centre of the picture run continuously across the mountainscape to the rocks represented on the left side. The lines that make up the fields, too, in the valley around and behind the castle situated on the left side of the middleground run parallel together into the vanishing point on the horizon. A strict structural analysis of the way in which the perspective effect has been constructed would overstate the case for Leonardo's compositional intentions with regard to the natural features represented in the picture.[128] However, it is clear even to the non-expert viewer that the drawing emphasises the continuity and cohesion of the elements that make up the part of the earth's surface that it depicts.

[128] Such an attempt to provide a formal perspectival analysis of the drawing was made in Rosenberg, "An Artistic Perspective On The Continuity Of Space And The Origin Of Modern Geologic Thought" 135-136. In figures 5 and 6 of that article, Rosenberg overlays onto the *View of the Hills of Tuscany* what he believes to be the perspectival composition lines that make up the picture. He returns to this idea in: G. Rosenberg, "The Measure of Man and Landscape in the Renaissance and Scientific Revolution," *GSAMem* 203 (2009): 13–40.

What Leonardo's *View of the Hills of Tuscany* demonstrates far more succinctly than any verbal explanation is the ability to conceive of a section of the earth as a continuous whole, united by its visual properties but with significance over and above that. His drawing came at the very beginning of what would later become the tradition of landscape. Along with the independent landscape drawings of the *Donauschule* and the contemporary chorographical descriptions of Conrad Gesner's circle in Zurich, the *View of the Hills of Tuscany* is not an attempt to see nature as if it were a landscape painting—since such a genre had not yet developed—but is rather a historical record of the time when sections of nature were first viewed as meaningful wholes, or *landscapes.*

In the case of Steno, it was his ability to conceive of the Tuscan Hills as a unified landscape, joined together by the formal lines of its strata across the scene, that gave him the key to his discovery. It is no accident that the same features of the Tuscan landscape brought Leonardo to view the same area as an aesthetic whole. The framing involved in conceiving of a landscape is the same as that used to pick out other natural phenomena for aesthetic appraisal. Consider briefly again the example of the whale.[129] It seems obvious that, as an animal, it constitutes a meaningful whole. As such, it has a natural boundary—its skin. This frames the animal and allows us to talk about appraising "a whale" aesthetically; it allows the animal to be judged as more than just a collection of flippers, fins, bones and skin. It has significance as a meaningful whole above just the sum of its parts. The same goes for a natural landscape such as "a forest scene", "a sea view", or "a mountain scene". Although admittedly more difficult to define, we know where a forest, mountain or sea scene begins and ends, and that it has certain formal properties that allow us to say where those boundaries—or frames—could be. We also know that a forest has more collective significance—both aesthetically and ecologically—than just a collection of trees. Similarly, the sea has more meaning than its total water volume. And a mountain range, as the case of Steno proves, can provide more information when taken as one entity, than it can when seen merely as individual peaks. To take another very simple example from Carlson: his diagram of formal beauty in a mountain range (figure 1) shows a sensitivity to the boundaries of a mountain scene, even though he claims that this type of framing is impossible when it comes to nature.

[129] For the case of the whale, see n. 43 above.

The reason that this idea of landscape belongs in any adequate account of the aesthetics of nature could be as simple as the point that Carlson acknowledges in his latest criticism of formalism:

> There is a sense, of course, in which all aesthetic appreciation is, and indeed must be, from the point of view of a particular human appreciator.[130]

But I argue that the case can be stated more strongly. As the example of the Tuscan Hills shows, some elements of nature can only be seen when a person takes in a particular view and a landscape is taken as a meaningful entity. Recognising that the Tuscan Hills form a continuous scene that is visually and geologically unified by its formal properties required in Steno the ability to conceive of a section of the earth's surface as a unified landscape. Leonardo's drawing provides early evidence of the development of that conceptual ability.

The significance of human perspective and a specific spatiotemporal arrangement of the natural world for the aesthetics of nature is demonstrated in the case of the rainbow.[131] A rainbow is not visible to everyone in the area where the right combination of water drops and sunlight occurs. A person has to be situated in the correct place, at the right time and at the right angle to see one. Moreover, the rainbow as humankind knows it is a phenomenon peculiar to humanity: the precise colours that make up the rainbow for human eyes are not the colours to which he eyes of a dog or a fish, for example, would respond. The fact that the rainbow is only perceptible to humans and that it requires a person to be situated in a particular place to be able to see it does not make it any less a part of the aesthetics of nature than the famous example of the whale or the tidal basin. Finally, the beauty of the rainbow consists almost entirely in its formal properties; its regular and consistent bow shape and the visible spectrum of colours in separate bands make up the aesthetic appeal of the rainbow. These formal aspects are also the clues to understanding the rainbow's formation. From the visible spectrum of colours and its semi-circular shape we know that the rainbow is caused by both reflection and

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[130] Carlson, "Contemporary Environmental Aesthetics and the Requirements of Environmentalism," 295.

[131] The 'rainbow argument' is outlined in Crawford, D., "Scenery and the Aesthetics of Nature," 257. Crawford's formulation is based on P. Fisher, *Wonder, the Rainbow, and the Aesthetics of Rare Experience* (Cambridge, 1999), 36–37. Fisher draws the strong conclusion that "without human observers there are no rainbows" in his exploration of the phenomenon (p.37).

refraction of light in water droplets. The same arguments, as argued above, apply in the case of landscapes: a person, situated in a certain place, must conceive of a given part of the earth's surface as a cohesive whole. The clues to the unity of the area will be provided by its formal properties. These formal properties also provide, in turn, the key to understanding the landscape on a deeper level. The example of the Tuscan Hills is particularly useful because it helps to unravel parts of this story: the information provided by the formal features of the area is brought out in Steno's *Prodromus*, while the effect of the emergent idea of landscape on our engagement with the natural environment is emphasised by Leonardo's early sketch of the same scene.

x) Conclusions

The historical evidence provided by an account of the change in aesthetic attitude towards the mountain in previously unstudied Latin works can be brought to bear on the modern environmental aesthetics debate. The previous chapters in this study demonstrated that the upheaval in the way that the mountain was considered aesthetically took place in two broad areas of thought: firstly, the place where chorography and art come together and secondly in the space between science and theology. Using specific examples from both of these themes, I have argued that cognitive knowledge about the natural world has a central role to play in its aesthetic appreciation. The historical approach provided support for the stronger claim of Allen Carlson's Natural Environmental Model: scientific information and its common sense analogues should form the core of that knowledge. However, the historical evidence also shows that the formal properties of the environment supply a great deal of information about the natural world and that the ability to conceive of parts of the earth's surface as a landscape is an important way to access that knowledge.

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